National Park Service
U.S. Department of the Interior

Comments and Responses on the Draft Environmental Impact Statement

December 2007

Elk and Vegetation Management Plan

Rocky Mountain National Park • Colorado

Volume 2

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RESPONSES TO SUBSTANTIVE COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Draft Elk and Vegetation Management Plan and Environmental Impact Statement (EIS) was released for public review in April 2006. The U.S. Environmental Protection Agency (EPA) published the Notice of Availability in the Federal Register on May 5, 2006 (71 FR 87). Its release initiated a formal 75-day comment period that ended on July 5, 2006. The comment period on the draft plan/EIS closed on July 5, 2006.

At the close of the comment period, the National Park Service began a content analysis of public and agency responses. The National Park Service received 2,675 responses to the draft plan/EIS, within which there were 3,146 comments. Comments were received by letter, through electronic mail, on comment forms collected at public meetings, as petitions, and by submission to the National Park Service planning website. Comment letters received included 2,615 from individuals, 3 from businesses, 14 from organizations, two from congressional representatives, seven from public agencies (including comments received from the U.S. Environmental Protection Agency and U.S. Fish and Wildlife Service), and one from a tribal government.

The most commonly addressed topics in the comments included Alternatives, Socioeconomics, and Purpose of and Need for the Plan. The most common issue that was raised (2,149 comments) by the public concerned those alternatives that were eliminated from further consideration in the plan/EIS. These comments were largely nonsubstantive in nature and generally supported or opposed an alternative. Of these comments, 1,085 were received in support of re-introduction of a self-sustaining wolf population into the park. This received the majority of comments due to a petition that contained approximately 1,000 signatures. Approximately 900 comments were received supporting allowing public hunting in the park, followed by 159 comments received asking that translocation of elk to other areas be considered. All of these were addressed in the draft plan/EIS in Chapter 2, “Alternatives Eliminated from Further Consideration” section and although the comments received on these were nonsubstantive in nature, the National Park Service has responded to these comments to further provide rationale for their dismissal.

Every comment was read and categorized in terms of its subject matter and content. A number was assigned to each comment, and a code was assigned to each different comment topic. After each document was coded, a series of steps were taken to determine whether the individual comment was substantive or nonsubstantive, according to the criteria set forth in the Council on Environmental Quality regulations (40 CRF 1500). Substantive comments are those that raise an issue regarding law or regulation, agency procedure or performance, compliance with stated objectives, validity of impact analyses, or other matters of practical or procedural importance. Nonsubstantive comments are those that offer opinions or provide information not directly related to issues or impact analyses. Nonsubstantive comments were acknowledged and considered, yet they did not need a response. Substantive comments were provided with a response. Altogether 142 comments were considered substantive. The purpose of reading, coding, and analyzing the contents of the comment letters was to assist the National Park Service in determining if the substantive issues raised by the public warranted further modifications and study of alternatives, issues, and impacts. With the information provided through the review process, the National Park Service and agencies provided further clarification to areas of the plan/EIS text, particularly the section in Chapter 2, “Alternatives Eliminated from Further Consideration” section.

INDEX OF COMMENT LETTERS BY CATEGORY OF AUTHOR

Business Comment Letters

Organization Comment Letters

American Indian Comment Letters

Public Agency and Congressional Representative Comment Letters

ORGANIZATION OF COMMENTS AND RESPONSES

This volume contains a summary of the substantive comments received on the Draft Elk and Vegetation Management Plan/EIS and the National Park Service's and other agencies' responses to those comments. The substantive comments received are consolidated into particular topics and issues assigned by the planning team. Some comments were duplicative of others received and therefore only one representative comment is presented. In most cases the comments are verbatim as received in the correspondence and are represented as quotations. For some the comments have been paraphrased. An index is provided that identifies the documents received by tribes, businesses, organizations, public agencies, and congressional representatives.

The comment and response section is followed by reprinted copies of the different documents or comment letters received from those groups identified above. Due to the number of documents received from individuals, these letters have not been reprinted but are on file at Rocky Mountain National Park.

Within some responses to comments, readers are directed to a particular section, chapter, table, figure, or appendix to find more information about a particular subject. Those referrals pertain specifically to Volume 1 of this Final Environmental Impact Statement.

PURPOSE OF AND NEED FOR ACTION

TOPIC: PURPOSE OF AND NEED FOR ACTION

Issue: Need for Action Based on the Elk Population Size

Comment: Many comments questioned why action was needed, as it is perceived by members of the public that the elk population has decreased since 2002 and is within "suitable limits."

Response: The population size since 2002 based on winter estimates ranges between 1,700 and 2,200 elk. The concern of the commenter is that management actions would be taken although the population is currently within the natural range. The level of management action that would be taken to control the population size would be adjusted annually based on the current population level estimates. Based on adaptive management, management actions to control the population size would not be taken if the population size was within the range specified within the alternative. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the park service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an overall elk population size of 1,600 to 2,100 elk with 600 to 800 elk in the park on the winter range. Based on annual monitoring of the population size, if the population is within this range and vegetation objectives were being met, no further population reductions would be taken. However redistribution actions would continue to occur to reduce high concentrations of elk.

Public Comment:	*Commenter:*	*Affiliation:*
1186A		Individual

Issue: Need for the Plan – Elk Effects on Vegetation

Comment: "No reasonable reduction in elk on the winter range will end the damage to aspen and willow stands. Elk damage to aspen and willow on the winter range in Rocky Mountain National Park was cited in the 1930s as justification for reductions (Stevens 1980). At that time, the population in the Park was estimated to be 1,100 elk. Maintaining the elk population at 500 to 700 animals between 1944 and 1967 did not end damage to willow and aspen (Stevens 1980). Elk depend on climax montane grasslands, meadows, and shrub complexes on the winter range in Rocky Mountain National Park. These stands are in stable, good condition (Stevens 1980, 1968-1992). It is not wise or responsible to manage elk on the basis of habitats that do not provide a significant proportion of their nutrition (Singer and Cates 1995)."

Response: Under the final plan/EIS preferred alternative, Alternative 3, the park subpopulation would be reduced to range between 600 and 800 animals, which ecosystem modeling estimates to be the level necessary to allow recovery of vegetation on the elk range in combination with fences to protect willow and aspen. The commenter is correct in that aspen and montane riparian willow do not make up a significant portion of the diet of elk, as was presented in the plan/EIS. However, as detailed in the plan/EIS, research conducted within the park showed that elk affect the ability of aspen to regenerate (W.L. Baker et al. 1997; Olmsted 1979, 1997) and the ability of riparian willow to reproduce and grow (Cooper et al. 2003) on the primary winter and summer ranges. In addition, Baker Et al. 1997 and winter range surveys during the reduction efforts referred to by the commenter indicated aspen were reproducing and willow conditions were improving. Recent research conducted in the park has also suggested that current elk consumption of herbaceous vegetation in montane riparian willow and upland shrub communities on the primary winter range of 55% and 60%, respectively, may result in herbaceous communities on the primary winter range that are not sustainable (Singer et al. 2002).

Public Comment:	*Commenter:*	*Affiliation:*
820C		Individual

Issue: Demonstrating Need for the Plan

Comment: "The Draft EIS provides ample evidence demonstrating the proposed slaughter of elk is not necessary or consistent with NPS statutory and regulatory mandates. This evidence demonstrates that the elk population has declined since 2002, that aspen may not be a natural component of [Rocky Mountain National Park], that [Rocky Mountain National Park]does not have adequate baseline vegetation monitoring data, and that there are an abundance of non-lethal strategies that [Rocky Mountain National Park]should attempt to address alleged elk herbivory impacts on particular species before it embarks on its proposed elk slaughter."

Response: The number of elk wintering in the park and Estes Valley has declined since 2002, ranging between 1,700 and 2,200 elk. The management plan is based on an adaptive approach. As such, management actions to control the population size would not be taken if the population size were within the range specified within the alternative and vegetation objectives were being met. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the park service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period. This alternative would involve lethal reduction of up to 200 elk per year. With this population level which is on the high end of the natural range, fences would need to be installed to protect willow and aspen on primary summer and winter ranges. The development of this alternative is based on empirical research (Singer et al. 2002) and predictions of ecosystem modeling (Coughenour 2002, Weisberg and Coughenour 2003). The plan/EIS recognizes that the time period for establishment of the aspen clones in the park is uncertain, however until further information can be gathered, the National Park Service will take a conservative approach to preserve the clones.

A large amount of baseline vegetation data have been collected on the primary winter range. Although data have not been collected on willow habitat types on the summer range, there have been observations by research scientists studying the park and park staff that similar effects are occurring on the summer range in the Kawuneeche Valley. As part of the management plan, monitoring and establishing baseline data on the condition of willow habitats on both the primary winter and summer elk range including the Kawuneeche Valley would be conducted prior to any management actions. See also response to comment 804L under "Issue – Scope of the Analysis" below.

The National Park Service and cooperating agencies considered a wide range of alternatives, including those that would involve no lethal removal of elk. However, during internal scoping and through the process of developing the alternatives, state and federal policies, logistical and economic challenges, and unacceptable levels of impacts resulted in the dismissal of alternatives that solely relied on non-lethal means such as translocation of elk to other areas, maximum manipulation of habitat using fences, re-introducing a self-sustaining wolf population, and maximum use of fertility control. Detailed discussion of why these alternatives were found to be unreasonable for elk and vegetation management is discussed in depth in the "Alternatives Eliminated from Further Consideration" section of the plan/EIS.

Based on annual monitoring of the population size, if the population is within this range and vegetation objectives were being met, no further population reductions would be taken and non-lethal methods such as fences and redistribution techniques would be employed to protect vegetation on the primary elk range. In addition, this alternative would pursue the use of other tools such as fertility control or wolves as adaptive management tools that would reduce or eliminate the need for lethal reduction of elk. See also response to comments on consistency with laws and policies in "Purpose of and Need for Action" section of this volume.

Public Comment:	*Commenter:*	*Affiliation:*
804E, 804S	Animal Welfare Institute	Organization

Comment: "[Rocky Mountain National Park] is not an intact natural system not just because it does not comprise a complete ecosystem but also because of a variety of anthropogenic impacts that affect the park each day. Whether it is the diversion of water for local cities or agriculture, pollution impacts from external sources, the lack of a complete assemblage of native ungulates (e.g. bison), anthropogenic barriers to natural elk immigration and emigration, and the very existence of roads, buildings, and other infrastructure within the park, the true restoration natural conditions would require far more than killing elk or reintroducing a token and intensively managed wolf population."

Response: This is true. However, a full restoration of natural conditions within all of Rocky Mountain National Park is not the scope of this project. The scope of the analysis as defined in the DEIS is not the entire park but rather the primary winter and summer range that the Rocky Mountain National Park/Estes Valley elk population uses. In the "Purpose of and Need for Action" and "Alternatives" chapters, the National Park Service defined, based on the best available science and through modeling, the natural conditions that would have existed within this area of the park given current habitat. The ecosystem modeling predicted that the elk population, under natural conditions given the current habitat, would fluctuate between 1,200 and 2,100 animals and, with an intact predator base, they would be less sedentary. The modeling also showed that, with a smaller and less dense elk population, aspen and willow on the primary elk range would be more abundant with more structural complexity. All action alternatives, including the preferred alternative, would strive to achieve these desired conditions.

Public Comment:	*Commenter:*	*Affiliation:*
804J	Animal Welfare Institute	Organization

Comment: "Chronic wasting disease is a legitimate concern for the future of elk in [Rocky Mountain National Park]. Even the National Park Service, however, concedes that it is unknown whether chronic wasting disease is a naturally occurring pathogen in wildlife populations. Draft EIS at 20. If it is naturally occurring, the NPS natural regulation mandate should allow the disease to persist regardless of its potential impact on elk or other species. Disease is known to be a natural factor that can exert control on wildlife populations. The National Park Service needs to make a determination as to whether chronic wasting disease is a naturally occurring pathogen and, if it determines it is naturally present in the elk population, it cannot use chronic wasting disease as justification for its elk slaughter plan."

Response: Chronic wasting disease management is beyond the scope of this document as was elaborated in the "Purpose of and Need for Action" chapter, "Issues Considered but Not Evaluated Further" section of the plan/EIS. In 2002 the National Park Service made the decision to manage chronic wasting disease as a non-native disease based on the best available scientific evidence (Director's Memo July 26, 2002). In 2006, this decision was formalized in the Management Policies for the National Park Service which clearly states that chronic wasting disease should be managed in the parks where it occurs as an exotic disease (Management Policies 2006 section 4.4.4). The plan recognizes the opportunity to further collect information on prevalence of the disease in the elk population within the framework of the action alternatives, but chronic wasting disease is not the justification for elk and vegetation management.

Public Comment:	*Commenter:*	*Affiliation:*
804Q	Animal Welfare Institute	Organization

Comment: "What is in dispute, however, is whether aspen is a naturally occurring species in [Rocky Mountain National Park]. … The [National Park Service] could have - and should have - taken the opposite position that it would not seek to restore or recover aspen habitat until and unless it was demonstrated that aspen were native to the park."

Response: Aspen are native to the park, however what is in question is the historical presence of aspen on the primary elk range. The commenter is correct in that there is uncertainty as to when aspen established in this area of the park, how its distribution may have fluctuated, and whether aspen were present in the grasslands of the elk range prior to elk extirpation by 1880. It is the management decision of the National Park Service to be conservative in its management approach to resource protection. Until more information can be obtained, the non-coniferous-associated aspen on the elk range would be protected under all action alternatives to prevent the permanent loss of the existing clones.

Public Comment:	*Commenter:*	*Affiliation:*
804R	Animal Welfare Institute	Organization

Issue: Defining Natural Conditions

Comment: "The EIS states the primary purpose of this plan is to "restore and/or maintain the elk population to what would be expected under natural conditions to the extent possible." (EIS pg. vii). However, the "natural", pre-European, conditions of both the elk and vegetation in the area now encompassed in [Rocky Mountain National Park] are virtually unknown …. The word "natural" is not applicable to any current or proposed action or aspect of elk ecology in [Rocky Mountain National Park]. Even the actual elk in question are human reintroductions. Therefore the aim of this plan should be an attempt to restore elk population numbers and environmental impacts to levels that are thought to reflect the historical condition in the park. Being that the

"natural" condition of the park is purely subjective a diverse-self-sustaining ecosystem is a more realistic goal."

Response: Although the National Park Service cannot establish with absolute certainty how many elk would be in the Estes Valley had no development occurred, such certainty is not necessary when determining how to manage the elk population given existing conditions. In the face of uncertainty, the National Environmental Policy Act (NEPA) requires federal agencies to obtain reliable scientific information on which to base the analysis in environmental impact statements. The draft EIS included such information, and the National Park Service reasonably may rely on it in making its decision on the elk and vegetation management plan. Modeling has predicted that historic elk population in the Estes Valley prior to European settlement fluctuated between 1,500 and 3,500 elk. Since that time, the habitat of the area has changed and has been lost due to development. The existing remnant habitat cannot support this number of elk. The National Park Service defined, based on the best available science and through modeling, the natural conditions the plan strives to achieve. These natural conditions are defined both in the "Purpose of and Need for Action" chapter and in the desired conditions contained in the "Alternatives" chapter of the EIS. The ecosystem modeling has predicted that the elk population, under natural conditions given the current habitat, would fluctuate between 1,200 and 2,100 animals and, with an intact predator base, they would be less sedentary. With such a smaller and less dense elk population, aspen and willow on the primary elk range would be more abundant with more structural complexity. All action alternatives, including the preferred alternative, aims at achieving these desired conditions.

Public Comment:	*Commenter:*	*Affiliation:*
808C	Humane Society of the United States	Organization
820Q		Individual

Comment: The EIS states that "under natural conditions, the elk population size and distribution would be controlled by a number of factors, including predators such as wolves and grizzly bears and hunting by Native Americans." (EIS pg 7). While this is true, the current elk population of 1700 - 2200 is well within the range of the historic elk population for the area which is said to fluctuate between 1500-3500 (EIS pg 8+13). The park has also recorded major population fluctuations within the past decade. Obviously, something is currently regulating these populations in the absence of natural predators and hunting pressure. Data from Yellowstone National Park and Banff National Park in Canada reveal that climatic variation may have a major effect on elk populations.

Response: As stated in response to comment 808C above, the historic range of the elk population cannot be achieved because the habitat is not available to support such a high number of elk. The natural range of variation for the elk population as stated in the plan/EIS (1,200 to 2,100 elk) has been modeled based on the current conditions of habitat and weather. It should also be noted that it is not only the size of the population that has prevented the recovery of willow and aspen on the primary elk range. The elk population does not reflect behaviors that would be expected under natural conditions in the presence of predators and hunting. Without a stimulus to cause redistribution of the population and prevent large concentrations of elk, scientific research conducted in the park indicates that high densities of elk, particularly in areas of the core winter range, are having significant adverse effects on vegetation. The elk have also become less migratory. Elk that are remaining on the winter range in the summer have been shown to severely inhibit the growth of vegetation, as high levels of herbivory are taking place during the growing season. Under the modified Alternative 3, the final plan/EIS preferred alternative, the National Park Service through reduction of the population to the high end of the natural range, use of fences to protect willow and aspen, and redistribution actions would restore to the

extent possible natural conditions.

Public Comment:	*Commenter:*	*Affiliation:*
808D	Humane Society of the United States	Organization

Issue: Compliance with Laws, Policies, and Regulations

Comment: "In the past, wolves have played an important role in maintaining a balanced ecology. Today's ecological system is unbalanced, and we are seeing some of the side-effects of that imbalance. Aside from the burgeoning elk populations, mountain lions have become a growing threat along the Front Range as they lose their fear of dogs and realize that they have little competition at the top of the food chain; wolves are a natural control on the cougars, and as wolves re-introduced to [Rocky Mountain National Park]would necessarily roam outside the park, they would have a controlling influence on the cougar population. As a World Biosphere Preserve, [Rocky Mountain National Park]should be taking the lead in creating a complete and balanced ecological system, not in wasteful and largely indiscriminate shooting of elk."

Response: The biosphere reserve concept designates areas to preserve genetic integrity and biological diversity and provide a seed source of genetic diversity for the reserve and surrounding areas. The National Park Service believes that the elk and vegetation management plan is consistent with this concept or philosophy. Through restoration of vegetation on the primary elk range in the park, habitat for a variety of other species is being protected and thereby preserving genetic integrity and the biodiversity these habitats support. The alternatives presented in the draft plan/EIS were developed using a population model that allowed the National Park Service to determine how many elk could be removed from the population over specific timeframes without risk of extirpation of the population. In addition, using an adaptive management approach based on annual monitoring of the elk population size and demographics by both the National Park Service and the Colorado Division of Wildlife would further ensure that the elk population is managed within the natural range of variation. The National Park Service did consider re-introduction of a self-sustaining wolf population during development of the plan/EIS. Please see responses to comments regarding use of a self-sustaining wolf population, in the "Alternatives: Alternatives Eliminated from Further Consideration" section of this volume for rationale as to why this was not considered a reasonable alternative at this time.

Public Comment:	*Commenter:*	*Affiliation:*
436D		Individual

Comment: The [National Park Service] failed to cooperate with other federal and state agencies in developing an alternative that is consistent with the Organic Act. Although the DEIS, Chap. 1 page 13, illustrates that the [National Park Service], acting as the lead agency, signed a Memorandum of Understanding with several agencies regarding cooperative planning, for reasons explained above, the preferred alternative fails to comply with the National Environmental Policy Act in regard to such cooperative agency status. The Plan does not take into account "natural and social sciences…in planning…" as required by Section 101. This claim is based on the fact that if a "systematic" and "interdisciplinary approach" were used, the restoration of a self-regulating wolf population would have been fully considered, and perhaps chosen as the preferred alternative.

Response: The National Park Service and cooperating agencies have met and continue to meet the terms of the Memorandum of Agreement by cooperating in the development of plan and the environmental impact statement

(see Appendix A of the plan/EIS for a full description of the agreement made between the agencies). The National Park Service plans to continue to cooperate in the management and monitoring of the elk population during implementation of this plan as well as continuing their cooperation and collaboration with the Colorado Division of Wildlife and the U. S. Forest Service in the regional management of wildlife including elk as members of the Rocky Mountain Council for Cooperative Wildlife Management. That said, only the National Park Service will be bound by its decisions in the upcoming Record of Decision. The National Park Service has sole authority for the management of elk while they are within Rocky Mountain National Park and will continue to cooperate and make recommendations on the management of elk outside park boundaries. NPS policies and laws provide authority for the park to cooperate with other federal and state agencies on management issues of mutual concern. The plan/EIS does comply with the National Environmental Policy Act and NPS policies with regards to cooperation with other agencies. National Environmental Policy Act requires agencies to work together in development of an environmental document. The Council on Environmental Quality's Forty Questions (Q22a), states that "Section 1506.2 strongly urges state and local agencies and the relevant federal agencies to cooperate fully with each other. This should cover joint research and studies, planning activities, public hearings, environmental assessments and the preparation of joint EISs under National Environmental Policy Act…" The agencies in accordance with National Environmental Policy Act and per the Memorandum of Agreement have cooperated fully through the planning process in examining and determining the purpose and need for the plan, developing the alternatives, participating in public workshops and meetings, and in preparing the environmental impact statement.

The plan/EIS does take into account natural and social sciences as presented in the issues and concerns raised by the public and agencies during scoping, as presented in the "Purpose of and Need for Action" chapter. The plan/EIS provides a comprehensive examination of impacts of alternatives on natural and social resources as presented in the "Environmental Consequences" chapter. The plan/EIS also provides an evaluation of the environmentally preferred alternative which provides an evaluation of the alternatives according to the six criteria presented in section 101of National Environmental Policy Act. There is, however, no requirement that the National Park Service must choose the environmentally preferred alternative as the preferred alternative.

The National Park Service did consider an alternative that would establish a self-sustaining wolf population as a means of managing elk and restoring vegetation on the primary elk range. Over a two-year period, the National Park Service and cooperating agencies met and collaborated in the development of the alternatives, which included discussion and evaluation of a self-sustaining wolf population to manage elk and vegetation. The National Park Service held a formal workshop in March 2005 with a panel of experts from multiple agencies to discuss the use of wolves as a means of managing the elk population. Based on this meeting and numerous other meetings with technical experts, the National Park Service and the experts agreed that at this time, without support from neighboring federal, state, and local agencies, the reintroduction of a self-sustaining wolf population would not be feasible. In addition, the National Park Service considered the concerns by neighbors of perceived and real threats; the degree of expected conflict with livestock and domestic pets; the limited suitable habitat available for wolves outside the park; and the intensive management that would likely be required to respond to external issues. As a result of these deliberations, this alternative was eliminated from further consideration. Please refer also to responses to comments for further discussion of the National Park Service's consideration of re-introducing a self-sustaining wolf population into the park in the "Alternatives Eliminated from Further Consideration, Issue: Self-sustaining Wolf Population" section of this volume.

Public Comment:	*Commenter:*	*Affiliation:*
806F	Sinapu	Organization

Comment: "The [National Park Service] plan fails to mitigate other adverse impacts as proposed by the Draft Plan. First, the Draft Plan insufficiently attempts to mitigate ethical concerns implicated by the proposed lethal control methods (under Alternative 2), which could potentially be very high in [Rocky Mountain National Park]because lethal control is inconsistent with the concept of wilderness. Second, the Draft Plan fails to mitigate the adverse impacts that fencing would have. The fencing will be aesthetically unpleasing to park visitors and could interfere with movement and activities of wildlife other than elk. The restoration of a self-regulating wolf population would avoid these adverse impacts while upholding the conservation mandate of the [National] Park Service and furthering the recovery of at-least one endangered species (the gray Wolf)."

Response: Lethal control of elk in the circumstances described in the draft environmental impact statement is supported by the minimum requirement analysis presented in Appendix G of the final plan/EIS and consistent with wilderness. The final plan/EIS preferred alternative, the modified Alternative 3, is consistent with the Wilderness Act, as actions taken to manage the elk population would promote the recovery and protection of vegetation within wilderness areas on the primary elk range. Director's Order 41 sets forth guidance for natural resource management within wilderness areas as it states, "Management intervention should only be undertaken to the extent necessary to correct past mistakes, the impacts of human use, and the influences originating outside of wilderness boundaries" (NPS 1999a). To assess the impacts on wilderness value and character, in compliance with the Wilderness Act and NPS policies, the National Park Service has prepared a Wilderness Requirement Analysis for implementation of the preferred alternative. This analysis determines at a programmatic level the appropriate and necessary actions that would be conducted in wilderness areas on the elk range and defines the equipment that would be needed for the action that minimize adverse impacts on wilderness resources and character.

The plan/EIS fully evaluated the impacts of fences on wilderness values and character, visitor experience, and other wildlife. The fence design as stated in the "Alternatives" Chapter, "Elements Common to All Action Alternatives" section, would allow the greatest access to fenced areas by other species of wildlife but would prevent use of the area by large animals such as elk and moose.

According to the NPS Management Policies (2006), the conservation mandate of the National Park Service "applies all the time with respect to all park resources and values, even when there is no risk that any park resources or values may be impaired. NPS managers must always seek ways to avoid, or to minimize to the greatest extent practicable, adverse impacts on park resources and values. However, the laws do give the Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values" (1.4.3). The Management Policies go on to define "park resources" as, among other things, the wildlife and ecological and biological processes that created and continue to act upon the park to the extent present in the park" (1.4.6). Because gray wolves are not present in the park, the conservation mandate of the park at this time would not require the restoration of a self-regulating wolf population. Please see responses to comments regarding use of a self-sustaining wolf population, in the "Alternatives: Alternatives Eliminated from Further Consideration" section of this volume.

Public Comment:	*Commenter:*	*Affiliation:*
806E	Sinapu	Organization

Comment: "Remarkably, though the Leopold Report from the late 1960s compelled the [National Park Service] to rediscover its natural regulation mandate, the elk slaughter plan under consideration by the [Rocky Mountain National Park]is entirely antithetical to this mandate. The [National Park Service] claim that its natural regulation mandate justifies the intentional manipulation of park wildlife and the park ecosystem to

achieve a desired condition for the park is entirely inconsistent with the proper interpretation of the natural regulation mandate."

Response: The Leopold Report recommended allowing wildlife populations within national parks to "self-regulate" when possible, but recognized that hunting outside park boundaries and some management lethal reductions within park boundaries occasionally may be necessary. The report goes further in stating that "it must be recognized that predation alone can seldom be relied upon to control ungulate numbers, particularly the larger species such as bison, moose, elk, and deer; additional artificial controls frequently are called for." The National Park Service has no natural regulation mandate directing management of wildlife in the National Park system, although individual parks may find it appropriate to manage wildlife by not taking management actions. . NPS Management Policies (2006) recognize that due to human disruption of natural processes, more manipulative management of wildlife in units of the National Park system may be necessary. As such, section 4.4.2 of the Management Policies allows for the manipulative management of wildlife when "a population occurs in an unnaturally high or low concentration as a result of human influences (such as loss of seasonal habitat, the extirpation of predators, the creation of highly productive habitat through agriculture or urban landscapes) and it is not possible to mitigate the effects of the human influences."

Public Comment:	*Commenter:*	*Affiliation:*
804A	Animal Welfare Institute	Organization

Comment: "Under this line of [court] cases, the proposed plan is unlawful under the Organic Act because lethal control methods and artificial fencing (when compared to the restoration of a primary natural ecological process such as wolf predation) do not promote the [National Park Service] duty of preservation, nor were these types of uses in the park considered by Congress when the Organic Act was enacted. … Therefore, based on the express mandate of preservation embodied in the Organic Act, [National] Park Service policies and existing case law, the preferred alternative the [National] Park Service selected is not a reasonable interpretation of the Organic Act and is thus arbitrary and capricious, falling outside the [National] Park Service's statutory authority."

Response: We believe the proposed management actions fully comply with the mandates of the Organic Act. As stated in the response above to comment 804A, NPS Management Policies (2006) recognize the ability of the National Park Service to take manipulative management actions when a population of wildlife occurs in an unnaturally high level as a result of human influences. These management policies are based on and fully consistent with the Constitution, public laws, treaties, proclamations, executive orders, regulations, and directives of the Secretary of the Interior and the Assistant Secretary for Fish and Wildlife and Parks.

Public Comment:	*Commenter:*	*Affiliation:*
806B	Sinapu	Organization

Comment: "The [National Park Service] cannot engage in a massive elk slaughter operation - primarily to be conducted under the cover of darkness, using both standard firearms and firearms equipped with silencers, mainly in the fall but potentially year round -- when there is absolutely no evidence to suggest that the current elk population is at an excessively high number or causing long-term and permanent damage to park ecology without violating the NPS Organic Act, its implementing regulations, and NPS policies. Indeed, considering the existing population is within natural variability (as determined through a modeling exercise) and that both

subpopulations are at or below carrying capacity due to food limitations or other reasons, there is simply no factual basis for any further evaluation of the proposed elk slaughter plan."

Response: As stated in the plan/EIS, the park subpopulation has been estimated to be at the food-limited carrying capacity and the town subpopulation is estimated to be at or below the carrying capacity. However, a population at or within the carrying capacity of the habitat does not necessarily indicate a balance in the elk-to-habitat relationship or that it is within the range of natural variation. Human-induced changes to the environment have had a large influence on habitat conditions even though ecological carrying capacity may be adequate to support the elk population. Ecosystem modeling has shown that with wolves present, the elk population would be 15% to 40% below the carrying capacity.

The elk population size is not the only factor resulting in degradation of the vegetation on the primary elk range. Elk densities in the localized area of the primary winter range are considered to be extremely high (Monello et al. 2005, Singer et al. 2002). This concentrated use of habitat particularly on the core winter range is inhibiting the growth of willow and aspen. This has been further discussed in response to comment 804L in the "Purpose and Need, Issue: Scope of the Analysis" section of this volume. These high densities, a lack of native predators and hunting prohibitions in the park and in the town of Estes Park can have a large effect on vegetation conditions although the carrying capacity is adequate to support the population. The National Park Service does believe that sufficient evidence regarding the effects that high levels of elk herbivory on vegetation on the primary elk range has been provided in the plan/EIS to justify the need for action, as has been presented in response to comments 820M in the "Elk Population, Issue: Elk Densities and Elk Movements" and 804V in the "Hydrology, Issue: Management Actions Effects on Hydrology" sections of this volume. It should be further clarified that the entire park ecology as referenced by the commenter is not being affected by the Rocky Mountain National Park/Estes Valley elk population. The elk and vegetation management actions would be implemented within park boundaries only on the primary elk range as presented in the "Purpose of and Need for Action" chapter and as indicated on Figure 1.1 in the plan/EIS.

The population size since 2002 based on winter estimates ranges between 1,700 and 2,200 elk. The concern of the commenter is that management actions would be taken although the population is currently within the natural range. The level of management action that would be taken to control the population size would be adjusted annually based on the current population level estimates. Based on adaptive management, management actions to control the population size would not be taken if the population size was within the range specified within the alternative and vegetation objectives were being met. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk with 600 to 800 in the park subpopulation. Based on annual monitoring of the population size, if the population is within this range and vegetation management objectives are being met, no further population reductions would be taken. However redistribution actions would continue to occur to reduce high concentrations of elk.

Public Comment:	*Commenter:*	*Affiliation:*
804N	Animal Welfare Institute	Organization

Comment: "…the Organic Act to explicitly allow for the "destruction of such animals and of such plant life as may be detrimental to the use of any …. Parks…" 16 U.S.C. 3. This statute exists because it was the intent of Congress in promulgating the Organic Act to ensure that the destruction of wildlife within national parks, unless explicitly allowed for in a park's enabling legislation, would only occur when the animal or animals were demonstrated to be detrimental to the use of any park. Such a determination requires absolute and irrefutable

proof of a significant adverse impact to the park, park wildlife, or other park resources that is detrimental to the park's use."

Response: Please refer to the response to 0806 B. In addition, numerous scientific studies used to support the analysis in the environmental impact statement establish that the concentration of elk within the park is adversely affecting the vegetation structure of the areas occupied by the elk. The Service believes these studies establish the detriment to the park required by 16 U.S.C. § 3.

Public Comment:	*Commenter:*	*Affiliation:*
804B	Animal Welfare Institute	Organization

Comment: "...promoting the park as potentially high-quality bird habitat if only there weren't so many elk is troubling hyperbole. Rocky Mountain never was and never can be a premier bird habitat, in my estimation. Other parks and many wildlife refuges are better suited for birds although these units are devoid of scenic grandeur, elk, bighorn sheep and mountain glory."

Response: As stated in the National Park Service Organic Act, it is the purpose of the National Park Service "… to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." This act applies to all wildlife, including birds.

The plan/EIS provides ample scientific evidence demonstrating that elk are having adverse effects on aspen and montane riparian willow habitat on the core winter range, resulting in an inability of aspen to regenerate and montane riparian willow to reproduce and grow. With the high level of elk herbivory, montane riparian willow is being converted to grasslands. Riparian habitats in particular support the highest level of songbird diversity of any western habitat type, while being one of the rarest (Leukering and Carter 1999). Bird species richness is also known to be significantly higher in aspen than in conifer habitats (Turchi et al. 1994). If this habitat is lost, those species that depend upon it will also be impacted. Protecting vegetation that provides habitat for wildlife, including birds, on the primary elk range is therefore in line with fulfilling the park's mission and meeting objectives of this plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
355D		Individual

Comment: Concern was expressed by a number of commenters that actions by the National Park Service such as removing animals at night and using bait are in violation of Colorado regulations regarding hunting of wildlife.

Response: Management of wildlife within the boundaries of the park is under the jurisdiction of the National Park Service and actions taken to manage the elk population within the park by the National Park Service do not involve nor should they be construed as hunting. Outside of the park, wildlife management, including hunting and wildlife-damage cases, is under the authority of the Colorado Division of Wildlife. This authority extends onto the Arapaho and Roosevelt National Forests. The U.S.Forest Service has the authority to manage wildlife habitat on the national forest, but, generally, the management of the wildlife itself is the responsibility of the Colorado Division of Wildlife. The National Park Service cooperates with the state regarding wildlife

management as directed in NPS Management Policies 8.2.2.6 and will continue to do so in the future.

It is important for readers to understand the differences between public hunting and culling activities undertaken by the National Park Service and their authorized agents. Although public hunting and culling are both used as conservation tools in ungulate management, there are differences between hunting and culling that must be clarified. Hunting is a recreational activity administered by state wildlife agencies through licenses and it involves fair chase and the taking of meat by the individual hunter. Culling, on the other hand, is a tool used to reduce populations that have exceeded their carrying capacity. It is a very controlled and structured activity, not a recreational activity like hunting, to minimize and/or prevent impacts on other members of the public and other resources. Because of the controlled nature of the activity, the proven skill of those authorized to take action, and the ability to be flexible in timing, location, and choice of management tools, culling actions are more efficient and potentially safer than hunting. Another important distinction is that carcasses and/or meat resulting from culling actions can be donated through an organized program to eligible recipients. More details and explanation of the differences between hunting and culling activities are provided in Appendix H of the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
839G, 1167A		Individual

Issue: Objectives in Taking Action

Comment: "Objectives and in some cases actions are not clearly defined. Alternatives are vague on the amount and timing of fencing, and on what constitutes a natural level of concentration of elk on winter ranges, "recovery" of willow, "recovery" of aspen or "recovery" of beaver. The Draft EIS states that reduction of elk herbivory on herbaceous vegetation is an objective (page viii), however, negative impacts of elk foraging on herbs is not documented in the Draft EIS, the need for reduction of elk foraging is not established, and the amount of reduction desired is not defined."

Response: The EIS does not detail the amount of fencing needed and the timing of such installation because it would be done adaptively. The need to fence areas of aspen and willow under the preferred alternative would be based on an evaluation of the response of aspen and willow on the primary elk range to management actions. As such, the final plan/EIS presents a worst case scenario of up to 600 acres of aspen and willow under the modified Alternative 3, the preferred alternative, which could be fenced to allow for a full evaluation of the effects that fences would have on park resources. Under all action alternatives, monitoring of vegetation communities would provide the information necessary to determine how many acres of willow or aspen on the primary elk range need to be protected. Similarly, monitoring data would provide the information necessary to determine when fences can be removed once communities are restored.

Objectives are clearly defined in the plan/EIS. The objectives presented in the "Purpose of and Need for Action" chapter of the plan/EIS were developed based on an understanding of the park's enabling legislation and the laws and policies that direct management of wildlife in the park. From these specific statements of the goals of the plan, the National Park Service developed further detailed identification of the desired conditions for elk and vegetation that the plan must strive to accomplish over the 20-year planning horizon. The desired conditions were provided in the plan/EIS in the "Alternatives" chapter, "Elements Common to All Action Alternatives" section. The thresholds for vegetation that indicate whether management actions are progressing toward meeting the desired future condition are what is believed by the National Park Service to be reflective of natural conditions. Thresholds for elk densities were established based on what level would be necessary to allow vegetation to recover to meet vegetation management objectives. The recovery of beaver was not identified as an objective of the plan, and therefore no threshold or desired future condition has been established for that resource.

The plan/EIS provided an evaluation of elk herbivory on herbaceous vegetation within the primary elk range. In the "Affected Environment" chapter, "Vegetation" section, the consumption rates of elk on herbaceous vegetation has been presented. In riparian willow, offtake of herbaceous vegetation has been reported to be 55%, and in upland shrub communities it is about 60% (Singer et al. 2002). Based on data collected from comparable systems, this type of vegetation can withstand offtake rates of 40% but not 60%. Therefore, as stated in the plan/EIS, the consumption rates in the park are considered to be extremely high and may alter herbaceous communities. The impacts of elk herbivory on herbaceous vegetation were fully disclosed in the plan/EIS and are supported by the best available science and professional judgment of NPS staff and scientific experts. In addition, the level of reduction of the elk population that would be achieved under each action alternative was disclosed in the plan/EIS, Executive Summary, "Alternatives" chapter, and in Table 2.2: Summary of Alternative Elements. The National Park Service has acknowledged in the plan/EIS that elk herbivory on herbaceous vegetation is a concern; however, it does not represent the overall need for the plan. The need for the plan was developed based on Rocky Mountain National Park staff and cooperating agencies concerns regarding overabundant and highly concentrated elk on park resources and is supported by decades of scientific research. The National Park Service believes that the justification for the need for the plan has been fully and adequately presented in the "Purpose of and Need for Action" chapter of the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
820O		Individual

Issue: Scope of the Analysis

Comment: "Even if the [National Park Service] did nothing, the Draft EIS contains no evidence that such a scenario would lead to permanent and long-term damage to the elk, other wildlife, or the majority of the vegetative communities in the park. Indeed, the only impact of such a scenario would be localized affects on specific vegetative species on core elk winter range in the park. Not only is such an impact entirely natural but could ultimately aid [Rocky Mountain National Park] by causing the continued decline in the elk population due to density dependent food limitations."

Response: The scope of the analysis as defined in the plan/EIS is not the entire park but rather the primary winter and summer range that the Rocky Mountain National Park/Estes Valley elk population uses. As provided in the plan/EIS, there is ample scientific evidence demonstrating that elk are having adverse effects on aspen and montane riparian willow habitat on the core winter range, resulting in an inability of aspen to regenerate and montane riparian willow to reproduce and grow. With the high level of elk herbivory, montane riparian willow is being converted to grasslands. Riparian habitats in particular support the highest level of songbird diversity of any western habitat type, while being one of the rarest (Leukering and Carter 1999). Bird species richness is also known to be significantly higher in aspen than in conifer habitats (Turchi et al. 1994). If this habitat is lost, those species that depend upon it will also be impacted.

There are data that show elk are having a similar effect on aspen on the primary summer range in the Kawuneeche Valley. Studies conducted in the park have shown that elk browsing stunts the growth or kills all young aspen trees on the core elk winter range and in some parts of the Kawuneeche Valley (W.L. Baker et al. 1997; Olmsted 1979, 1997). Although data have not been collected on willow habitat types on the summer range, there have been observations by park staff and research scientists studying in the park that similar effects are occurring on the primary summer range in the Kawuneeche Valley. As part of the management plan, monitoring and establishing baseline data would be conducted prior to any management actions.

The decline in aspen and montane riparian willow on the elk range is not limiting the elk population size. Conversely, the conversion of willow to grassland that is occurring as a result of elk herbivory is creating more forage. As riparian willow and aspen habitats decline as a result of over grazing by elk on the primary elk range

they are replaced by grasslands which make up a large portion of the elk's diet. Therefore, the recommendation of the commenter to allow the vegetative condition to further degrade to limit the elk population size would be incorrect.

Public Comment:	*Commenter:*	*Affiliation:*
804L	Animal Welfare Institute	Organization

Issue: Planning Period

Comment: "The goal of each of the alternatives stated in the Draft Elk and Vegetation management Plan/EIS is simply to reduce the elk population within the Rocky Mountain National Park with the assumption that population-curbing alone will benefit the vegetation in the long run. This is not an accurate assumption. Only Alternative Five offers the long-term success that the National Park Service seeks. As explained above in "Yellowstone Example", reduction of the elk population must be accompanied by constant elk migration. Both Alternative Two and Alternative Five cease human intervention after twenty years, but Alternative Five's effectiveness will continue for as long as wolves are present in the park. Even if, in utilization of Alternative Two, park officials were to do the shooting in a way that encourages constant migration, that migration will stop at the end of the twenty-year period, and the original problem will present itself once again. As long as wolves are in the park, the elk will be in a continuous state of migration, which will keep the park's vegetation healthy in all areas, well after the twenty-year period."

Response: Each action alternative involves actions to not only reduce the size of the elk population but to also redistribute and disperse elk to reduce concentrations, which are in some areas of the core winter range the highest ever recorded in North America. The National Park Service recognizes that conditions may change over 20 years or that new technologies or management tools such as wolves may become available for managing elk and vegetation. The National Park Service recognizes that management activities will need to continue beyond the 20-year period of this plan/EIS. During implementation of the plan over the next 20 years, the park will re-evaluate the conditions of resources on the elk range, and if changes in management actions are needed outside of what is addressed in the plan/EIS, they would be assessed through another National Environmental Policy Act process at that time.

Public Comment:	*Commenter:*	*Affiliation:*
834C	Wolf Advocate	Organization

TOPIC: NEPA ISSUES

Issue: Purpose of the Plan is Narrowly Defined

Comment: "The purpose described in the draft EIS predetermines the outcome of the analysis: The draft EIS describes the purpose of the proposed action in terms of varying degrees of lethal control of the Park's elk. The singularly-focused means to achieve the protection of the forage and fauna of the area are listed in ways that are antithetical to the language and spirit of the National Environmental Policy Act, which seeks the consideration of the broadest range of alternatives that can reasonably be implemented. Not surprisingly, under the narrow confines of the statement of purpose which is predicated on the killing of elk, the range of alternatives is severely limited and completely biased toward the lethal control of elk. …. The word "natural" is not applicable to any current or proposed action or aspect of elk ecology in [Rocky Mountain National Park]. Even

the actual elk in question are human reintroductions. Therefore, the aim of this plan should be an attempt to restore elk population numbers and environmental impacts to levels that are thought to reflect the historical condition in the park. Being that the "natural" condition of the park is purely subjective a diverse, self-sustaining ecosystem is a more realistic goal."

Response: The "Purpose and Need" chapter of the plan established that the elk population is outside the natural range of variation and is having a detrimental effect on vegetation that provides habitat to a myriad of wildlife species. As such, the purpose of the plan as stated in the plan/EIS is to guide management actions within the park to reduce the impacts of elk on vegetation and restore to the extent possible the elk population to within the natural range of variation and affected plant communities. This statement of purpose does not constrain management actions to only those involving lethal removal of elk. However, during internal scoping and through the process of developing the alternatives, state and federal policies, logistical and economic challenges, and unacceptable levels of impacts resulted in the dismissal of alternatives that solely relied on non-lethal means such as translocation of elk to other areas, maximum manipulation of habitat using fences, and maximum use of fertility control. Detailed discussion of why these alternatives were found to be unreasonable for elk and vegetation management is in the "Alternatives Eliminated from Further Consideration" section of the plan/EIS.

In the "Purpose of and Need for Action" and "Alternatives" chapters, the National Park Service defined, based on the best available science and through modeling, the natural conditions that would have existed within the park given current availability of habitat. The ecosystem modeling predicted that the elk population, under natural conditions given the current availability of habitat, would fluctuate between 1,200 and 2,100 animals and, with an intact predator base, the elk would be less sedentary. The modeling also showed that, with a smaller and less dense elk population, aspen and willow on the primary elk range would be more abundant with more structural complexity. All action alternatives, including the preferred alternative, would strive to achieve these desired conditions.

Public Comment:	*Commenter:*	*Affiliation:*
808B	Animal Welfare Institute	Organization

Issue: Actions are Precedent Setting for the Park Service

Comment: "…the Draft EIS provides no analysis of how this effort, if successful, will affect wildlife management throughout the national park system."

Response: The Rocky Mountain National Park elk and vegetation management plan does include a number of actions that may be considered to be precedent setting including experimental use of wolves and the use of trained herding dogs to direct the movement of elk. Consistence with servicewide policies and precedence have been considered in the development of the plan/EIS. . See response to comments in "Purpose and Need for Action, Issue: Laws, Policies, and Regulations" in this volume.

Public Comment:	*Commenter:*	*Affiliation:*
804G	Animal Welfare Institute	Organization

ALTERNATIVES

TOPIC: ELEMENTS COMMON TO ALL ACTION ALTERNATIVES

Issue: Use of Adaptive Management

Comment: "Why are there no options included involving trying something for a year or two, re-evaluating at that time, and going from there?"

Response: Using an adaptive management approach allows modification of management actions within the framework of each alternative based on future research and monitoring information. Annually, the National Park Service will evaluate monitoring results and determine what actions will be employed to most effectively manage the elk population and restore vegetation. For a full description of the adaptive management process, please see the "Adaptive Management" and "Monitoring and Data Collection" sections of the "Alternatives" chapter in the plan/EIS.

Based on annual monitoring of the population size, if the population is within the natural range of variability as specified in the alternative and vegetation management objectives are being met, no further population reductions would be taken. The location, frequency, and duration of tools such as fences, herding, and aversive conditioning would be modified or adapted as necessary to protect aspen and riparian willow habitat based on response of vegetation to management activities. In addition, the modified Alternative 3, the preferred alternative in the final plan/EIS, would pursue the use of additional tools such as fertility control or wolves as adaptive management tools that would reduce or eliminate the need for lethal reduction of elk.

Public Comment:	*Commenter:*	*Affiliation:*
190E		Individual

Issue: Chronic Wasting Disease Testing

Comment: "I am writing to point out the absurdity of testing elk for disease AFTER they are killed! It makes more sense to have the hired shooters use tranquilizers in their silenced guns, [and] then once elk are down, test them for the disease. Those that are infected can be euthanized and incinerated, while those that are NOT infected can be relocated."

Response: It should be noted that the purpose of reducing the elk population is not to control chronic wasting disease but rather to reduce impacts that elk are having on vegetation and to restore to the extent possible the natural range of variability in the elk population and affected plant communities. Testing elk that are subject to lethal reduction actions is of value to the National Park Service and state wildlife managers as it will provide important information on the prevalence of the disease in elk. No test currently exists for chronic wasting disease in live elk that provides immediate results in the field. If a field test becomes available that provides immediate results to determine chronic wasting disease, within the framework of the alternative, elk subject to population reduction activities would be immediately tested, and those testing positive for the disease would be preferentially removed to reach the target elk population number. The National Park Service would conduct a research study within the framework of the alternative testing procedures of using a live test for chronic wasting disease in elk. The final plan/EIS text has been revised to include a description of this study in the "Alternatives" chapter, "Opportunistic Research Activities" section. The evaluation of impacts of this research study has been included in the "Environmental Consequences" chapter. Although this particular test does not provide immediate "in the field" results, the knowledge and information gained from this study could well

contribute to the advancement of testing for chronic wasting disease with the goal of, eventually leading to a test that provides immediate field results.

With regards to translocating elk from the park, current National Park Service and state policies prohibit exportation of elk from areas in which animals are known to be infected with chronic wasting disease to areas in which animals are not known to be infected. Although translocation has been used in the past by the park prior to the known occurrence of chronic wasting disease in the area, and other NPS units to address elk overpopulation, this incidence of chronic wasting disease in the elk population makes trapping and transporting a potential hazard to wildlife and to public health and safety. Therefore, this alternative was dismissed from further consideration. See also response to comments in the "Alternatives Eliminated from Further Consideration" section of the "Alternatives" chapter.

Public Comment:	*Commenter:*	*Affiliation:*
38A		Individual

Issue: Herding Elk Outside of the Park

Comment: One commenter suggested herding or pushing elk out of the park during hunting season into game management unit 20 and other adjacent areas so that hunters could access them."

Response: Under the final plan/EIS preferred alternative, the modified Alternative 3, redistribution actions would be done to encourage movement out of the park on the west side to areas where they could be hunted. The Colorado Division of Wildlife recommended not encouraging this movement out of the park on the east side due to safety concerns with elk moving through the town of Estes Park and across private properties.

Public Comment:	*Commenter:*	*Affiliation:*
274A		Individual

Issue: Annual Population Reduction Target

Comment: A few commenters questioned why the exact number of elk to be removed was not provided in the plan/EIS.

Response: The actual number of elk over a 20-year period that would be removed cannot be determined. As the elk population fluctuates due to variables such as immigration or emigration, birth and mortality rates, environmental conditions, and hunter harvest, the number of elk lethally removed or controlled would vary from year to year. The numbers of elk to be lethally removed or controlled under each action alternative is therefore presented as a range to take into account uncertainty and interaction of these variables as park staff determine the number of elk to be managed each year. Using this range allowed the National Park Service to evaluate and present to the reader a "worst case scenario" in terms of the potential impacts on resources from elk and vegetation management actions within the park.

Public Comment:	*Commenter:*	*Affiliation:*
1169A		Individual

Issue: Mimicking Wolf Predation

Comment: "Alternative 2 calls for the killing of elk at random, which will not strengthen the herds overall as wolf predation would. Wolves make elk prove their strength and health before killing them, which would remove much of the sick and weak elk from the park's population."

Response: To the extent possible, management actions would be conducted to mimic the wolf predation. The National Park Service would use predator-resembling aversive conditioning to redistribute elk to reflect a more natural state and to modify the human-habituated behaviors they exhibit. Lethal reduction actions with unsuppressed weapons, herding, and aversive conditioning techniques would be used and monitored to determine their effectiveness in changing elk distributions and behaviors.

Public Comment:	*Commenter:*	*Affiliation:*
83B	Wolf Advocate	Organization

Issue: Use of Fences to Protect Vegetation

Comment: "Temporary fencing proposed under the [draft plan/EIS] preferred alternative (Alternative 2 page 59) has been tried in Rocky Mountain and it failed. Aspen stands were fenced in 1963 and fences were removed after tree crowns had grown beyond reach of elk. Elk girdled and killed the trees within a short period. The conclusion drawn was that survival of aspen was actually decreased by temporary fencing. The survival of trees exposed to grazing was enhanced by the scarring that occurred in response to browsing. To protect aspen from elk damage by fencing the fences would have to be permanent."

Response: Ecosystem modeling to more intensively examine the effects of elk density on aspen regeneration indicated that aspen were able to regenerate and produce new cohorts in the presence of lower elk densities (less than 26 elk/mile^2), depending on the amount of time elk spend feeding in aspen stands (Weisberg and Coughenour 2003). In 1963, the elk population in the park ranged from 800 to 1,000 elk. Under the modified Alternative 3, the preferred alternative in the final plan/EIS, the park subpopulation would be reduced to a range of 600 to 800 elk, and high elk concentrations would be reduced. Using an adaptive management approach, the National Park Service would evaluate the effectiveness of reduced elk numbers, redistribution methods to reduce densities, herding, and fences to determine the locations and amount of fences needed to achieve vegetation management objectives. Monitoring of vegetation communities would provide information necessary to determine how many acres of willow or aspen habitat on the primary elk range need to be protected. Monitoring data would also provide the information necessary to determine when fences can be removed once communities are restored.

The expected amount of fencing that would be needed to protect aspen and willow on the primary elk range under each action alternative has been revised in the "Alternatives" chapter in the final plan/EIS. The following description of how these estimates were derived has been added to the "Methods for Arriving at Alternatives" section of that chapter. To estimate the expected fencing requirements needed to meet the aspen and willow restoration objectives, the total acreage of these vegetation types was considered in relation to use of various redistribution techniques that the action alternatives would employ to achieve local elk densities that allow establishment and growth of new plants. The amount of fence proposed in the action alternatives to protect vegetation is based on current park vegetation maps and GIS analysis, park specific scientific research (e.g. Cooper et al. 2003 and Peinetti 2002), vegetation and hydrologic site-specific conditions, and best professional judgement where data on vegetation condition is not available. The amount of fencing needed to restore riparian willow habitat includes areas determined to be suitable willow habitat as defined by Cooper et al. 2003. These areas currently fall within the "meadow" habitat type, but are places where willow would be expected to occur

because current water tables are adequate. For aspen, the current vegetation map of the park was used to select categories that include *Populus tremuloides*, but have no or only a limited conifer component.

The action alternatives present the best estimate for expected amount of fencing at this time. However based on monitoring and on ground surveys to confirm acreages (ground-truthing) the amount of fencing needed may be adjusted in the future to achieve vegetation management objectives.

Public Comment:	*Commenter:*	*Affiliation:*
820D		Individual

Comment: "There are simpler, less expensive and more humane ways to exclude elk from aspen and willow stands other than shooting them. Simply fencing would suffice without shooting elk. The [National] Park Service has not provided this alternative to the park."

Response: The National Park Service and cooperating agencies considered an alternative that would fence all of the aspen and willow on the elk range with no elk population reduction actions. See "Alternatives" chapter, "Alternatives Eliminated from Further Consideration, Maximum Habitat Manipulation" section in the plan/EIS This alternative, however, was considered to be infeasible as it would not meet the management objectives regarding the elk population and it would likely displace elk to areas outside the park, creating or exacerbating problems in these areas; there were doubts as to whether the National Park Service could logistically, based on resources and funding, fence that large of an area; and there would be a high degree of adverse impact on visitor use and experience.

Public Comment:	*Commenter:*	*Affiliation:*
82E		Individual

Issue: Donation of Meat

Comment: "A pre-cull reservation of carcasses could be accomplished with a mass mailing to all elk license holders in areas 20, 29, and 19. This would send carcasses to where they would be most appreciated and hunters are already aware of [chronic wasting disease] and would be most likely to test their donated carcasses. All should pay their own processing as they would have to anyway. I hope you can utilize volunteers to distribute the carcasses. This would lighten the burden on your already light and overworked staff. Perhaps most of this could be handled by CDOW volunteers."

Response: To the extent possible the National Park Service would donate carcasses and/or meat from elk in which chronic wasting disease is not detected and that were not killed using sedative agents or euthanasia drugs through an organized program to eligible recipients, including members of tribes, based on informed consent and pursuant to applicable public health guidelines.

Public Comment:	*Commenter:*	*Affiliation:*
1160G		Individual

Comment: Many commenters had concerns over the distribution of carcasses. Predominantly people were

upset as it was a common perception among the public that commented that meat would not be donated. Others wrote in to suggest that the meat from carcasses should be donated to the public and primarily to those people in need.

Response: To the extent possible the National Park Service would donate carcasses and/or meat from elk in which chronic wasting disease is not detected and that were not killed using sedative agents or euthanasia drugs through an organized program to eligible recipients, including members of tribes, based on informed consent and pursuant to applicable public health guidelines. Currently, the NPS Public Health Program directs that all meat gathered from areas with chronic wasting disease be processed and packaged in a meat-processing plant approved and licensed by the state or the U.S. Department of Agriculture (USDA). In addition, current guidelines do not permit donations to food pantries, soup kitchens, or any entity that intends to redistribute the product due to the need to gain informed consent from individuals who may consume the meat. The required guidelines for meat donation may change in the future and the National Park Service would adjust the disposition of carcasses accordingly. The distribution of carcasses and/or meat has been revised in the final plan/EIS and a description of the process is provided in the "Alternatives" chapter, "Elements Common to All Action Alternatives: Distribution of Carcasses" section of the final plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
69B		Individual

Comment: "While hunting is not allowed in the parks, [Rocky Mountain National Park] might well adopt an alternative that has proved successful in management of fisheries that must be destroyed to remove undesired fish or that are going to be destroyed by draining reservoirs. The [Colorado Division of Wildlife] normally makes salvage of this resource available to those with a valid license. In the case of the [Rocky Mountain National Park] elk, if sharpshooters take elk in reasonably accessible areas you could have citizens on call who would gladly retrieve the carcass. I assume you would want to involve [Colorado Division of Wildlife] in this; they might issue special extra licenses by drawing. This would help remove the distaste that wasting the valuable resource brings to those that enjoy hunting without [Rocky Mountain National Park] having to allow public hunting."

Response: To the extent possible the National Park Service would donate carcasses and/or meat from elk in which chronic wasting disease is not detected and that were not killed using sedative agents or euthanasia drugs through an organized program to eligible recipients, including members of tribes, based on informed consent and pursuant to applicable public health guidelines. See other responses to donating meat above.

Public Comment:	*Commenter:*	*Affiliation:*
324A		Individual

Issue: Carcass Removal

Comment: "For those carcasses that are not removed, the idea of leaving headless corpses around the park in numbers that "…reflect a natural state to the greatest extent possible" is flawed (EIS pg 54). Once again, the use of the concept of "natural" is to be interpreted loosely. There is no indication of how many carcasses will be removed and how many will be left in the field. We believe that seeing the carcasses that are left behind will compromise the experience of the visitors to the park."

Response: Under the action alternatives, some calf carcasses would be left in the field, as chronic wasting

disease has not been detected in calves, to reflect natural conditions. The majority of carcasses, however, would be removed, tested for chronic wasting disease, and carcasses and/or meat would be donated as described in the "Alternatives" chapter, "Elements Common to All Action Alternatives: Distribution of Carcasses" section of the plan/EIS. Some adult carcasses could be left in the field only if very difficult logistical constraints inhibited their removal. In these instances, the areas where the carcasses would be left would be inaccessible due to the distance from high-use or developed areas and due to difficult terrain, and there would be a low likelihood of visitors entering the area and encountering a carcass. In addition, actions would be taken by the management teams to place carcasses so they are not highly visible or easily encountered. Leaving some carcasses in the field would also benefit a variety of wildlife species that feed on carrion.

Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement alternatives given current staff resources and funding constraints. The final plan/EIS preferred alternative, the modified Alternative 3, would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. This alternative would involve lethal reduction of up to 200 elk per year. It is expected that the majority of carcasses that result from small-scale lethal reduction activities conducted throughout the year would be removed, tested for chronic wasting disease, and carcasses and/or meat would be donated through an organized program to eligible recipients. Under the preferred alternative, there would be negligible adverse impacts on visitors as a result of carcasses left in the field.

Public Comment:	*Commenter:*	*Affiliation:*
808H	Humane Society of the United States	Organization

Comment: "There are doubts about the decision to increase the amount of carcass remains left in the park and the ecological effects of an increase in carcasses. What animals would be feeding on these extra carcasses? Would the "easy" food increase their litter sizes? Would you have a larger winterkill because the easy food would be gone after the first couple of years? Would you be throwing off the whole food chain or web? What about tourists? Would finding a decaying elk be "cool" or "disgusting"? Would you have problems with tourists trying to remove bones because they will be more accessible or available? The list of questions is variably endless."

Response: Please see response 808 H above. Under any alternative, to the extent possible, the majority of carcasses would be removed; however, some may be left in the environment. Even under Alternative 2, in which a large reduction effort in the first four years of the plan would result in a larger number of carcasses, there would not be an increase in available forage for other species to result in population level effects or changes in the ecosystem. The preferred alternative in the final plan/EIS, the modified Alternative 3, would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. This alternative would involve lethal reduction of up to 200 elk per year. It is expected that the majority of carcasses that result from small-scale lethal reduction activities conducted throughout the year would be removed. Some calf carcasses could be left in the environment to reflect natural conditions. The benefit to other predators and scavengers that would forage on carcasses would be negligible to minor.

Public Comment:	*Commenter:*	*Affiliation:*
839E		Individual

Issue: Reintroduction of Beaver

Comment: "Your plans for bringing back the beaver are inadequate. I think you should immediately begin bringing in beavers to those areas not so heavily populated with elk so that repopulating will be easier once the elk herd is reduced."

Response: These areas would be outside the affected area and therefore would not facilitate the restoration of willows in the area of concern on the primary elk range as proposed in the plan/EIS. Beaver currently exist in the area of concern however at depressed numbers. It is expected that the beavers would recover naturally with recovery of vegetation on the primary elk range as elk numbers and densities are reduced.

Public Comment:	*Commenter:*	*Affiliation:*
923A		Individual

Issue: Cost of Management Actions

Comment: "We would like to know how the price of processing the carcasses was determined."

Response: The costs presented in the draft plan/EIS were based on the cost of chemical digestion or placing carcasses in landfills. The FEIS bases costs only on chemical digestion since carcasses testing positive for chronic wasting disease could not be disposed of in landfills. Processing costs were not evaluated in the estimate of alternative costs because donation of processed meat would be contingent on funding from outside sources or partners to help defer the high costs of processing and packaging. In response to public concern about meat donation and the indication of interested partners, it is expect that the National Park Service would be able to donate carcasses and/or meat from elk in which chronic wasting disease is not detected and that were not killed using sedative agents or euthanasia drugs through an organized program to eligible recipients, including members of tribes, based on informed consent and pursuant to applicable public health guidelines. It is therefore expected that carcass disposal costs would be minimal. The derivation of alternative costs is presented in "Appendix B, Estimated Costs of the Alternatives" in the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
1170C		Individual

Comment: Many commenters were concerned over the cost of implementation of the alternatives particularly the life-cycle costs of implementing Alternative 2 in the draft plan/EIS. Many suggested the use of hunters to control the population would be much more cost effective.

Response: The National Park Service's preferred approach in the draft plan/EIS was the use of contractors to carry out a defined program to reduce the elk population. Costs were estimated based on contracting all management actions without accounting for use of existing park staff and equipment. The Class C estimates in the draft plan/EIS were intended as rough estimates to demonstrate the relative differences between the alternatives. The costs presented were developed using industry standards to the extent available.

It also appears that many public commenters assumed that total reported costs were only for lethal reduction. The costs displayed in the draft plan/EIS were also an estimate of and a presentation to the public of the greatest potential cost of the plan including fencing, monitoring, and education. These costs were presented as both a 20-year total and a yearly cost. In response to public concern, the National Park Service re-evaluated costs to incorporate maximum use of existing staff and it was assumed that ample existing equipment was available

rather than the need to purchase new equipment specifically for the program. The re-evaluation of costs also included the cost of installing fences in a phased approach, using the expected number of acres fenced rather than a maximum number, and using the estimated median number of elk that could potentially be culled rather than the maximum number.

Although costs were not a primary consideration in determining the range of alternatives to be evaluated, it should be noted that a public hunt, whether it be a lottery or agency-guided hunt, could not be done without costs to the National Park Service. A public hunting alternative would include cost for visitor management and for increased personnel to establish and manage closures while hunting was occurring; public relations including working with and/or managing the media would need to be funded to inform visitors of hunting activities in the park, associated closures, and additional safety precautions when using the park during the hunting period; additional public relations and enforcement staff and funding would be needed to address public protests by those opposed to hunting in national parks; dedicated staff time would be necessary to direct, manage, and oversee the hunts; and additional staff time would be necessary for coordination of hunting activities with other park actions and activities.

While some costs may be reduced through a managed public hunt, traditional hunts have been shown to be less efficient in meeting ungulate reduction project goals when compared to lethal reduction by agency staff. Therefore, it is questionable whether overall program costs could be substantially reduced and still meet the objectives of the plan..

Public Comment:	*Commenter:*	*Affiliation:*
822B	National Rifle Association	Organization
21B, 165A		Individual

TOPIC: ALTERNATIVES EVALUATED IN DRAFT PLAN/EIS

Issue: Alternatives 1 – Continue Current Management

Comment: "The [National] Park Service should return to its 1968 objectives in managing the Park and attempt to allow natural processes to occur without human interference. Control ceased in 1969 in order to test the hypothesis that the elk population would self regulate at the carrying capacity of the environment with the aid of hunting seasons outside the park. That hypothesis has proved to be true. The elk have self-regulated in response to their food supply within the Park and stabilized in number. …The town elk also demonstrated density dependent population regulation. The [National] Park Service management experiment succeeded and current management should be continued."

Response: Under natural conditions with wolves and American Indian hunting, the subpopulation that winters in the park would be below carrying capacity, elk densities would be less, and herbivory levels on vegetation would be lower. See also response to ROMO-804 N in "Purpose of and Need for Action" section of this volume.

Public Comment:	*Commenter:*	*Affiliation:*
820R		Individual

Comment: "Alternative 1, the No Action alternative along with its other benefits would maintain elk populations at carrying capacity which would enhance the probability of natural restoration of a missing predator, the gray wolf, in the Park. The Draft EIS statement that naturally recolonizing wolves would benefit from a smaller fitter elk population is patently false."

Response: It is unclear where in the plan/EIS this commenter is referring to. The plan/EIS does not claim that naturally recolonizing wolves would benefit from a smaller, fitter elk population.

Public Comment:	*Commenter:*	*Affiliation:*
820S		Individual

Issue: Alternative 2 - Rapid Reduction

Comment: We support the National Park Service's preferred alternative [in the draft plan/EIS] to reduce the elk population in this area of Colorado. However, we are concerned the preferred alternative is designed to "hide" the dramatic impacts of reducing the elk population from the public. How can the [National Park Service] hope to avoid future human-caused wildlife conflicts if it refuses to "daylight" its management action to the public? [National Wildlife Federation] NWF is adamant in supporting maximum human safety during elk reduction actions, but we do not believe the public interest is served by only conducting elk reductions at night and by using silencers to reduce noise from high caliber weapons. Park visitors and neighbors need to understand the consequences of human actions outside of the Park and that those consequences result in the destruction of native wildlife. Perhaps, if the public does experience restricted access and the noise of high power weapons, it will be more thoughtful and responsible in its future decisions. We do not advocate a cavalier or insensitive approach to the reduction, but rather consider it a "teachable" moment for the public and the impact of their decisions on wildlife and their habitats.

Response: The National Park Service through its interpretation and outreach program does educate the public on the impacts that elk are having on the habitat within the park and the reasons why this is occurring including the alterations in habitat in areas outside of the park due to development. Under all action alternatives, the National Park Service would implement methods to further educate the public on why the elk population is outside its natural range, which could include the effects that human activity outside the park has had on elk and the ecosystem. In accordance with the National Park Service laws and policies, the park must consider the impact of management actions on the visitor experience and the safety of the public because part of the NPS mission is to provide enjoyment of the parks by the public. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the park service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative, the modified Alternative 3, would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. This alternative would involve lethal reduction of up to 200 elk per year. Management activities could be conducted at any time of the day using multiple methods that would minimize impacts on visitors and would be mitigated to eliminate risks to visitor safety as described in the "Elements Common to All Action Alternatives" section in the "Alternatives" chapter.

Public Comment:	*Commenter:*	*Affiliation:*
815A	National Wildlife Federation	Organization

Comment: "One of the main reasons people come to Rocky Mountain National Park is to see the elk herds in summer and fall. If the elk are to be killed, I don't believe you need to take as many as 50% of the herd in the first year or two. Why not reduce the herd size by the expected growth rate plus 10%. This would take a few more years but we would never endanger the size of our herd by a mass slaughter. If we reduce the herd size too quickly and then had a disease strike such as [chronic wasting disease], we could lose the entire herd. This would be unacceptable."

Response: Alternative 2 in the plan/EIS would not result in a reduction in 50% of the population within a year. Rather the population would be reduced to within the lower end of the natural range of variability, 1,200 to 1,700 elk within the first four years of the plan and maintained at that level over the next 16 years. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. Based on annual monitoring of the population size, if the population is within this range and vegetation objectives are being met, no further population reductions would be taken.

The population modeling used to estimate the number of elk to be removed annually from the population takes into account stochastic events and other factors such as hunting and mortality due to disease that affect the population size. Based on monitoring data of elk population size and demographics, determination of the number of elk to be removed each year under the preferred alternative would use an adaptive management approach. Determining the level of management actions for a particular year would involve analyzing the results on the population of the previous year's management actions in combination with population changes that may have occurred as a result of stochastic events such as a severe winter in areas adjacent to the park. The National Park Service would continue to collaborate with the Colorado Division of Wildlife to monitor the population and to determine annual management activities in terms of the locations, numbers, and timing of elk removal.

Public Comment:	*Commenter:*	*Affiliation:*
501C		Individual

Comment: The preferred alternative [in the draft plan/EIS] is overkill. The preferred alternative (Alternative 2) proposes to kill 200 to 700 elk annually out of a population that they estimate may be as low as 1,700 elk. This rate of reduction could drive the elk population below the target population level within a single year.

Response: Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the park service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. This alternative would involve lethal reduction of up to 200 elk per year. As stated in the "Alternatives" chapter, "Alternative Development" section of the plan/EIS, the numbers of elk to be lethally removed each year under each alternative is presented as a range to take into account uncertainty and interaction of variables such as immigration or emigration, birth rates and mortality, hunting, and environmental conditions. The plan is based on an adaptive management approach, and if the elk population size is determined based on monitoring and the use of population modeling to be within the range specified in the alternative (1,600 to 2,100 elk with 600 to 800

in the park subpopulation under the preferred alternative) and if vegetation objectives were being met, then no further elk reduction actions would be taken. The preferred alternative presented in the final plan/EIS does not propose reducing the population below the lower level of natural range of variation.

Public Comment:	*Commenter:*	*Affiliation:*
820F		Individual

Issue: Alternative 4 - Fertility Control with Lethal Reduction

Comment: "My own research to date yields strong doubts about fertility-control agents for deer management in the wild. I know of no agent approved for use that carries no public health risk, should elk stray outside the park and come to table as a consequence of hunting, nor can I imagine how park elk could be reasonably contained within park boundaries."

Response: As described in the "Alternatives" of the plan/EIS, under Alternative 4, animals treated with fertility control agents or immobilization agents may require a mark for identification to notify those that may consume the meat. Treated elk would need to receive a readily recognizable long-term mark that warns individuals not to consume the meat if the elk was killed before the required withdrawal period had passed for a regulatory approved fertility control agent or immobilization drug, or if the fertility control agent was not regulatory-approved or approved by a prescribing veterinarian for extra-label use. The withdrawal period for a drug is the number of days that must elapse between drug administration and removal so that meat from a treated animal is fit for human consumption. For Food and Drug Administration (FDA) licensed drugs used according to label directions, the withdrawal period of an agent is identified on the label. For extra-label drug use, the period is determined by the prescribing veterinarian based on the best available scientific information. If Leuprolide, a single-year agent, were used to treat elk, a veterinarian would be responsible for establishing the withdrawal period for the drug or determining that there is no withdrawal time. The treated animals would then require marking to prevent human consumption of the meat until the established period has passed.

Public Comment:	*Commenter:*	*Affiliation:*
856E		Individual

Issue: Alternative 5 – Highly Managed Wolf Population

Comment: The idea of sterilizing only the male wolves to prevent initial reproduction while leaving the females is ill-advised. The study cited to justify this action clearly states that both members of a pair must be sterilized in order for wolves to maintain normal social and territorial behaviors. Leaving females intact will only lead to hybridization with coyotes or dogs. While wolf-coyote hybridization did not commonly occur in this region historically, hybridization between wolves and other canids is more likely to occur in small or inbred populations. Such hybridizations could easily occur, only to result in the destruction of the hapless hybrid pups.

Response: The study by Spence et al. 1999 did involve sterilized wolf pairs. However, a report by Mech et al. (1996) showed that pairs maintained a social bond and dug a den even when the female was not pregnant. The observations by that study suggest that den digging is not a function of pregnancy but rather is likely because females exhibit "pseudopregnancy." Vasectomy does not impact hormones, so males would be expected to maintain normal behavior. Mech et al 1996b, Haight and Mech 1997, and Spence et al. 1999 all indicate that male wolves that are vasectomized would continue to hold mates and territories. Based on this research, the National Park Service believes that sterilized males would continue to exhibit normal behaviors.

Because vasectomies do not impact male hormones, male wolves would act like intact males, so male wolves

would continue to defend their female. Copulation between vasectomized males and intact female wolves would occur. Females would go into pseudopregnancy after estrous (Wild 2006). Given the limited timeframe for a dog or coyote to enter the territory and breed the female wolf, and that the male wolf would continue to defend the female, the likelihood of hybridization is very minimal, although there is still a remote possibility. If hybridization did occur, the National Park Service would take action to remove the hybrid offspring from the park either through lethal means or relocation to an appropriate facility.

Public Comment:	*Commenter:*	*Affiliation:*
808I	Humane Society of the United States	Organization

Comment: "The density, size, and behavior of the elk herd is well presented. Introduction of wolves for predation can be given yet more intense scrutiny. In light of the Yellowstone experience, there may be details to be learned about establishing one or more packs in higher-mountain areas, with planning to restrict the packs from overly-broad extension in five to fifteen-year time frame. The lack of extensive cattle-raising in proximity to the park is a point in favor of the encouraging of one or a very few packs."

Response: Alternative 5 considered in the plan/EIS would release and establish a small number of wolves (up to 14 in the long-term if needed) into the park in a highly managed manner as a tool in managing the elk and restoring vegetation. In addition, the modified Alternative 3, the preferred alternative in the final plan/EIS, would pursue the use of a highly managed wolf population as an adaptive management tool if monitoring indicates that management objectives are not being met by other means.

Public Comment:	*Commenter:*	*Affiliation:*
856C		Individual

Comment: "Regardless of the hybridization issue, the huge amount of monitoring and handling proposed in the EIS for reintroduced wolves would be incredibly stressful for these animals. The purpose and need to handle wolves involved in research has been questioned in the past. Blood work conducted on coyotes captured and handled for radio-telemetry studies revealed elevated blood levels of glucose and leukocyte counts which can be indicative of a stress response. Behavioral symptoms of traumatic stress disorder have also been recorded for a wild wolf that was repeatedly subjected to human handling in the form of helicopter darting, repeated translocations, and temporary captivity. This is the type of treatment that the proposed reintroductions would face in [Rocky Mountain National Park]."

Response: The concerns expressed by the commenter are valid and true. Alternative 5 would use wolves as a tool and therefore they would be highly managed. As a result, actions to manage the wolves would result in stress to those individuals. The National Park Service recognizes this and would, within the constraints of an action, reduce to the greatest extent possible any pain or distress that the actions may cause.

Public Comment:	*Commenter:*	*Affiliation:*
808J	Humane Society of the United States	Organization

Comment: "Neither Alternative 5 nor Alternative 2 includes the possibility of setting up a fund for reimbursement of ranchers who lose livestock to wolves. This has worked reasonably well in the Yellowstone ecosystem, under the leadership of Defenders of Wildlife, and we suggest that the [National] Park Service look for suitable partners in establishing such a fund in the event wolves are reintroduced."

Response: The plan/EIS, under the description of Alternative 5 in the "Alternatives" chapter, addresses this concern. The plan/EIS recognized that no state or federal compensation programs exist for wolf-caused losses; however other programs established by private groups, such as Defenders of Wildlife, may be applicable. Under the modified Alternative 3, the preferred alternative in the final plan/EIS, wolves may be used in the future to redistribute the elk population if monitoring indicates that other redistribution actions are ineffective in meeting management objectives for vegetation recovery. This would take place if there were opportunities to cooperate with adjacent land managers and the state, and if supported by state and federal policy. If wolves are used in the future to manage the elk population, the National Park Service would at that time seek suitable partners for such a fund.

Public Comment:	*Commenter:*	*Affiliation:*
1159B	Audubon Society of Greater Denver	Organization
1166A		Individual

TOPIC: ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Issue: Alternatives Eliminated - Hunting in Park

Comment: "The true failure of the DEIS is that it did not include the most viable and cost effective alternative and that is to allow licensed hunters, under supervision of Park staff, to act as the "contractors" to cull elk herds. …. However, to call an action a cull and not a hunt in no way precludes members of the general public that is licensed hunters, from assisting the park in its objectives under "controlled circumstances." The park and its DEIS have arbitrarily eliminated this option from the set of alternatives. Thus the NRA believes that the DEIS is a flawed document."

Response: The National Park Service disagrees that this alternative was arbitrarily dismissed. The National Park Service and cooperating agencies held numerous meetings in the development of the alternatives over a two-year period. The use of hunters to control the elk population both inside and outside the park was carefully considered throughout this development process. The National Park Service and cooperating agencies considered the use of hunters in the management of elk in the form of a traditional hunt.

In summary, the National Park Service considered and rejected a traditional hunt as a reasonable alternative for this plan for the following reasons: 1) implementing a traditional hunt in Rocky Mountain National Park would significantly conflict with the long-standing traditional uses of the park and have significant impact on the visitor use and experience; 2) allowing a traditional hunt would require changes to basic NPS policy and, a change in federal law; 3) case law supports dismissing an alternative that would require a major change in long-standing basic policy; 4) other alternatives, such as lethal reduction by NPS staff and authorized agents, could be implemented without changing current laws and policies; 5) other alternatives, such as using trained NPS staff and their authorized agents, raise fewer safety concerns, would impact other visitors to a lesser degree, and

would have substantially the same environmental effects ; 6) other alternatives, such as using lethal reduction by NPS staff and their authorized agents, would have a higher degree of efficiency, and 7) other alternatives, such as using lethal reduction by NPS staff and their authorized agents would better meet the purpose, needs, and objectives of the plan, in accordance with Council on Environmental Quality(CEQ) regulations, than would a traditional public hunt. A revised description of the rationale for dismissal of traditional hunting in the park is provided to further clarify the National Park Service's position and is provided in the "Alternatives Eliminated from Further Consideration" section of the "Alternatives" chapter.

Many commenters suggested the use of members of the public to assist in lethal reduction activities (culling) in the park. In response to these comments, the National Park Service has clarified in the "Alternatives" chapter of the final plan/EIS that the lethal reduction activities in the park under any of the action alternatives would be conducted by NPS staff and /or their authorized agents as allowed by NPS Management Policies. An authorized agent could include but is not limited to qualified volunteers. A full discussion of authorized agents and culling is provided in Appendix H of the final plan/EIS. Authorized agents would need to be certified in firearms training, specially trained in wildlife culling, and be required to pass a proficiency test in order to qualify to participate in lethal reduction activities. The actions to reduce elk population in the park would not be considered hunting. It is important for the reader to understand the differences between public hunting and culling activities. Although public hunting and culling are both used as conservation tools in ungulate management, there are differences between hunting and culling that must be clarified. Hunting is a recreational activity administered by state wildlife agencies through licenses and it involves fair chase and the taking of meat by the individual hunter. Culling, on the other hand, is a tool used to reduce populations that have exceeded their carrying capacity. It is a very controlled and structured activity, not a recreational activity like hunting, to minimize and/or prevent impacts on other members of the public and other resources. Because of the controlled nature of the activity, the proven skill of those authorized to take action, and the ability to be flexible in timing, location, and choice of management tools, culling actions are more efficient and potentially safer than hunting. Another important distinction is that carcasses and/or meat resulting from culling actions can be donated through an organized program to eligible recipients. There could be no personal take of meat by cullers. More details and explanation of the differences between hunting and culling activities are provided in the text that follows as well as in Appendix H.

Public Comment:	*Commenter:*	*Affiliation:*
822A	National Rifle Association	Organization
807C	Congressman, Honorable Mark Udall	Congressional Representative

Comment: "I do not believe the comparison to a hunt in Connecticut is valid. Most elk hunters I know are serious dedicated hunters who often spend a week or more in pursuit of elk even when the weather is harsh. There are more than enough interested hunters since there are far more applicants for elk hunting in Colorado than licenses available."

Response: The National Park Service recognizes the importance of hunting in Colorado. The use of hunters to manage the elk population inside the park was carefully considered in the development of the plan/EIS. The commenter may be correct in suggesting that hunters would be more interested in hunting in Colorado than Connecticut. Numerous people during public scoping and review of the draft plan/EIS expressed interest in helping the park reduce the elk population, but there is no assurance that this public interest in participating in population control would continue over the 20-year life of the plan. Without consistent annual hunter participation, the National Park Service would eventually need to perform the lethal reduction actions and incur

the costs of such actions.

In response to the public's comments regarding use of members of the public in culling activities, the National Park Service has clarified in the final plan/EIS that lethal reduction activities in the park under any of the action alternatives would be conducted by NPS staff and /or their authorized agents as allowed by NPS Management Policies. An authorized agent could include but is not limited to qualified volunteers. A full discussion of authorized agents and culling is provided in Appendix H of the final plan/EIS. Please see response to comment 822A above for the complete rationale for dismissal of public hunting in the park as an alternative.

Public Comment:	*Commenter:*	*Affiliation:*
30B		Individual

Comment: "Under Title 36, Volume I of the Code of federal Regulations, You, the NPS, can grant hunters such as myself the privilege of hunting National Parks where overpopulations and conservation is needed. I do believe that a season can be implemented as not to conflict with the use of the general public."

Response: In 1984, after careful consideration of Congressional intent with respect to hunting in national parks, National Park Service promulgated a rule (36 CFR 2.2) that allows public hunting in national park areas only where "specifically mandated by federal statutory law." The National Park Service recently reaffirmed this approach in its 2006 management policies. Grand Teton National Park is the only national park in the lower 48 states in which ungulate hunting is allowed. Congress passed specific legislation in 1950 authorizing hunting (by licensed hunters deputized as park rangers) in portions of Grand Teton National Park, in part because elk were being fed on adjacent U.S. Fish and Wildlife Service lands. Hunting is not authorized in Rocky Mountain National Park. See response to comment 822A above.

Public Comment:	*Commenter:*	*Affiliation:*
1164A		Individual

Issue: Self-sustaining Wolf Population

Comment: "Defenders of Wildlife urges you to issue a new Draft Plan that fully considers restoration of a self-regulating population of wolves within Rocky Mountain National Park (RMNP)."

Response: The National Park Service did consider an alternative that would establish a self-sustaining wolf population as a means of managing elk and restoring vegetation on the primary elk range. Over a two-year period, the National Park Service and cooperating agencies met and collaborated in the development of the alternatives, which included discussion and evaluation of a self-sustaining wolf population to manage elk and vegetation. The National Park Service held a formal workshop in March 2005 with a panel of experts from multiple agencies to discuss the use of wolves as a means of managing the elk population. Based on this meeting and numerous other meetings with technical experts, the National Park Service and the experts agreed that at this time, without support from neighboring federal, state, and local agencies, the reintroduction of a self-sustaining wolf population would not be feasible. In addition, the National Park Service considered the concerns by neighbors of perceived and real threats; the degree of expected conflict with livestock and domestic pets; the limited suitable habitat available for wolves outside the park; and the intensive management that would likely be required to respond to external issues. As a result of these deliberations, this alternative was eliminated from further consideration.

Public Comment:	*Commenter:*	*Affiliation:*
805A	Defenders of Wildlife	Organization

Comment: "[The National Park Service] has unlawfully rejected a Reasonable Alternative (i.e. self-sustaining wolf population). … Based on the scientific evidence presented in the Draft Plan, the National Environmental Policy Act requires the Draft Plan to include a full and extended discussion of a sustaining wolf population in [Rocky Mountain National Park]. Dismissing this alternative does not comply with the National Environmental Policy Act to the "fullest extent possible", as required by Section 102, making the Draft Plan fatally defective."

Response: The NPS Director's Order 12: Conservation Planning, Environment Impact Analysis and Decision-Making (NPS 2001) states that a full range of alternatives must be examined. The Council on Environmental Quality (CEQ, Question 2) defines reasonable alternatives as those that are technically and economically feasible and that show evidence of common sense. The alternatives carried forth by the National Park Service in the plan/EIS are believed to be those that are feasible to implement. Regarding the evaluation of an alternative that would establish a self-sustaining wolf population, the National Park Service did consider this alternative as means of managing elk and restoring vegetation on the primary elk range. See response to comment ROMO-805A above.

Public Comment:	*Commenter:*	*Affiliation:*
806D	Sinapu	Organization

Comment: "The Endangered Species Act: Under recent court rulings (Defenders of Wildlife vs. Department of the Interior), the limited re-introduction of wolves in the Yellowstone region is insufficient to remove the wolf from the list; re-introduction in Colorado would seem to be not only a good idea for the elk, but also for the eventual stabilization and de-listing of the wolf in general."

Response: Restoration of wolves is not the purpose of this plan. A self-sustaining wolf alternative for the management of elk was evaluated and dismissed from further consideration as stated in the "Alternatives" chapter, "Alternatives Eliminated from Further Consideration" section of the plan/EIS. Of the alternatives considered in the plan/EIS, Alternative 5 would use an experimental population of wolves to control the elk population in a highly managed approach. As stated in that alternative, as long as the wolves are considered to be a federally protected species, approval to use wolves as a tool to manage elk in Rocky Mountain National Park would need to be granted by the U.S. Fish and Wildlife Service. The preferred alternative in the final plan/EIS, the modified Alternative 3, could use wolves as a tool under an adaptive management approach. If, based on monitoring of the elk population and vegetation on the elk range, management objectives are not being met, the National Park Service would consider release of wolves into the park to redistribute elk according to the management process described in Alternative 5. Release would only occur if opportunities exist at that time to cooperate with adjacent land managers and the state of Colorado, and if supported by state and federal policy.

Public Comment:	*Commenter:*	*Affiliation:*
436E		Individual

Issue: Translocation of Elk to Other areas

Comment: Many commenters responded suggesting that the National Park Service transport elk to other areas as an alternative to lethal control of the population.

Response: This alternative was considered in the development of the alternatives but dismissed from further consideration early in the planning process, as current National Park Service and state policies prohibit exportation of elk from areas in which animals are known to be infected with chronic wasting disease. Although translocation has been used in the past by the park, prior to the known occurrence of chronic wasting disease in the area, and other NPS units to address elk overpopulation, the incidence of chronic wasting disease in the Rocky Mountain elk population at this time makes trapping and transporting a potential hazard to wildlife and to public health and safety. Therefore, this alternative was dismissed from further consideration.

Public Comment:	*Commenter:*	*Affiliation:*
29A, 44B, 288A		Individual

TOPIC: SUGGESTED NEW ALTERNATIVES OR ELEMENTS OF ALTERNATIVES

Issue: Supplemental Elk Feeding

Comment: Some commenters suggested feeding elk to reduce the elk foraging on sensitive vegetation.

Response: The use of hay bales or artificial feeding would result in an increase in the number of elk and more concentrations of elk, which would not resolve the need for the plan. In addition, encouraging high concentrations of elk would increase the potential risk of spreading chronic wasting disease within the population.

Public Comment:	*Commenter:*	*Affiliation:*
190D		Individual

Issue: Use of Fertility Control Agents

Comment: "We support your preferred alternative 2 [in the draft plan/EIS] but with the following considerations: In addition to lethal reduction, sterilization should also be used to limit the number of new born calves so the birthrate does not neutralize the lethal reduction rate. Although accessibility to females appears easier than to bulls during rutting season, why not consider sterilizing predominant bulls who undoubtedly impregnate 30 to 50 or more cows per season. Seems like that method would be more efficient assuming you can get access to the bulls."

Response: The National Park Service recognizes that the birthrate would increase as the elk population is reduced. This increase in recruitment of newborns into the population has been accounted for in the alternative development and is reflected in the annual number of elk to be removed. Treating bulls would not be efficient in reducing the elk population size as one male can breed with many females. The treatment of all dominant bulls, which is infeasible, would not ensure that subordinate males would not then breed. Targeting females, however, would allow an efficient reduction in the elk population by taking the fewest number of animals. By

removing females, the calves that they would produce in the current year and future years would not be recruited into the population. Thus, the population would be reduced by the number of individual females removed plus the offspring that they would have produced during their breeding years. Alternative 4 presented in the plan/EIS would control the elk population primarily through use of fertility control of female elk. Alternative 3 as modified in the final plan/EIS, the preferred alternative, would use fertility control as an adaptive management tool if logistical capabilities for using fertility control improve and longer-acting, multi-year drugs become available.

Public Comment:	*Commenter:*	*Affiliation:*
42A		Individual

Comment: I would favor an embellished 'Alternative Four' (using fertility agents to reduce populations), by greatly increasing the numbers of elk treated and eliminating reductions by lethal means. …. The agent Neutersol would be injected into the bull's reproductive sacs, after the elk has been rendered briefly unconscious from a tranquilizing dart (the procedure would be extremely painful without anesthesia). Neutersol is a one-time injection with a 99+% effectiveness. The bull could be ear-notched or tattooed to be easily recognized as sterile."

Response: See response to comment 42A above regarding why treating bull elk with fertility control agents would be infeasible in controlling the elk population. Early in the planning process, the agencies evaluated an alternative using available fertility control technologies to treat female elk to manage the elk population without the need to lethally remove elk. Only short-term fertility control agents would be available for immediate implementation. Based on population modeling projections, approximately 900 female elk would need to be treated annually to reach a population at the high end of the natural range of variability (1,600 to 2,100 animals). This alternative was dismissed from further consideration as unreasonable to implement for a number of reasons. It would be logistically and economically infeasible for agency staff or contractors to capture and treat annually such a high number of free-ranging female elk. Treating 400 deer per year even with the most effective, remotely delivered contraceptive is beyond the logistical capabilities of most commercial ranching facilities or zoos (NPS 2004c). The capture, treatment, and marking of 900 female elk in Rocky Mountain National Park, considering the terrain and free-ranging nature of the elk, would be significantly more difficult than this, and well beyond the financial, logistical, and operational abilities of the park, especially given the many concurrent demands on park resources and funding. In addition, the ability to capture and treat 900 female elk each year would decline over time, as elk would become more wary of management actions, reducing the ability for this alternative to meet the long-term management objectives of the plan. To prevent births in the following year, treatment would occur between mid-July and September, when visitation to the park is high. The impacts on visitors from a high number of elk that would bear a marking and the high frequency of management actions in the summer months would result in a significant level of adverse impacts to visitors that could be reduced via alternate management actions.

Public Comment:	*Commenter:*	*Affiliation:*
1162A		Individual

Comment: "The [Humane Society of the United States] does not believe that any of the proposed alternatives provide a long-term solution to the current elk and vegetation situation. Therefore, the [Humane Society of the

United States] proposes alternative 6 which includes broad-scale immunocontraception of the elk, temporary fencing of vulnerable vegetation, aversive conditioning of elk to aid dispersion, and a possible introduction of free-ranging wolves."

Response: The commenter proposes a modification to Alternative 4, in which fertility control would be implemented as logistically feasible, fences would be installed to protect aspen and willow, and wolves would be used instead of lethal reduction action to remove the remaining 80 to 150 elk that would be needed to meet management objectives. The proposed alternative does not provide additional benefit beyond those alternatives already evaluated. Increasing fertility control and the marking required to track treated elk increases the adverse effects on visitor experience. In addition, this proposed alternative would result in maximum handling of animals (both elk and wolves). The reader is directed to the response to comment 1162A above for rationale as to why fertility control alone as a management tool to reduce the elk population was dismissed from further consideration.

The National Park Service did consider the use of a self-sustaining wolf population as an alternative for managing elk in the park. The National Park Service and experts have concluded that at this time, without support from neighboring federal, state, and local agencies, the reintroduction of a self-sustaining wolf population would not be feasible. In addition, the National Park Service considered the concerns by neighbors of perceived and real threats; the degree of expected conflict with livestock and domestic pets; the limited suitable habitat available for wolves outside the park; and the intensive management that would likely be required to respond to external issues. As a result of these deliberations, this alternative was eliminated from further consideration. See also response to comment 805A above for further discussion on elimination of a self-sustaining wolf population as a management alternative.

Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the park service to implement an alternative, given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. This alternative would also use fences and redistribution methods to protect vegetation on the primary elk range. Based on annual monitoring of the population size, if the population is within this range and vegetation objectives were being met, no further population reductions would be taken for that year. In addition, this alternative would pursue the use of other tools, such as fertility control or wolves, as adaptive management tools that would reduce or eliminate the need for lethal reduction of elk.

Public Comment:	*Commenter:*	*Affiliation:*
808A	Humane Society of the United States	Organization
273A		Individual

Comment: "Incorporate fertility control agents into salt blocks that are used one month each year."

Response: The agent cannot be administered in that manner because it would risk exposure to other wildlife that are not the subject of this management plan. In addition, encouraging high concentrations of elk would increase the potential risk of spreading chronic wasting disease within the population.

Public Comment:	*Commenter:*	*Affiliation:*

190C	Individual

Issue: Culling Old and Sick Elk and Increasing Hunting Licenses

Comment: "I believe a better solution would be to selectively cull the sick, the old and the crippled among the herds, as predators do, and then reintroduce predators (wolves) to control the herds. If more reduction in the size of the herds is necessary, because we have let it get so far out of control, then reduce the additional animals by issuing more hunting permits for the areas surrounding the park. This could potentially generate additional revenue (special hunting permits) to help with the expenses of re-establishing the predators to the park. I'm sure that additional action such as enclosures and such would initially be necessary to protect certain areas until the number of animals is reduced to acceptable levels."

Response: Targeting only the sick, old, and crippled elk in the population would not provide the reductions needed to control the population size and meet the management objectives of the plan. In addition, it would be difficult to target sick, old, and crippled animals, especially in large numbers, as animals that are visibly impaired are usually short-lived. Under the action alternatives, the National Park Service would mimic the behavior of wolves to the extent possible but more elk would need to be removed.

In regards to increasing hunting permits, the Colorado Division of Wildlife has doubled the number of elk hunting licenses, liberalized annual bag limits by allowing the harvest of additional female elk, and allowed special hunts to address damage. These actions have reduced the elk population somewhat. However, harvest of elk outside the National Park alone will not be adequate to address damage to vegetation within the park and elk human-conflicts, because many of these elk use lands closed to hunting.

Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement an alternative, given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. Based on annual monitoring of the population size, if the population is within this range and vegetation objectives were being met, no further population reductions would be taken. In addition, this alternative would pursue the use of other tools, such as fertility control or wolves, as adaptive management tools that would reduce or eliminate the need for lethal reduction of elk.

Public Comment:	*Commenter:*	*Affiliation:*
280B		Individual

Issue: Cooperation with American Indians

Comment: A number of commenters suggested that the National Park Service should involve American Indians in the management of elk in the park.

Response: Due to the number of public comments received suggesting the involvement of members of tribes, under the preferred alternative in the final plan/EIS lethal reduction would be carried out by NPS staff or their authorized agents, which could include professional staff from tribes. The National Park Service will also work with tribes and organizations that represent tribes to donate carcasses and/or meat from carcasses in which chronic wasting disease has not been detected to tribe members to the extent possible, through an organized program and based on informed consent, pursuant to public health guidelines.

Public Comment:	*Commenter:*	*Affiliation:*
453B, 1161S		Individual

Issue: Mountain Lions to Control Elk Population

Comment: "Try to relocate mountain lions from populated areas into the park as a tool to manage the elk herd."

Response: There are no data to suggest that mountain lions are not already at carrying capacity in the park. In addition, mountain lions do not prey on elk as their primary food source and would not be effective in reducing the elk population and meeting the management objectives of the plan.

Public Comment:	*Commenter:*	*Affiliation:*
15B		Individual

Issue: Dog Walkers to Control Elk Population

Comment: "Allowing hikers to walk with their dogs under control, but off- leash, in specific areas at desired times/seasons might be another way to control elk feeding and generate revenue instead of costs."

Response: Under the modified Alternative 3, the preferred alternative in the final plan/EIS, contractors with trained herding dogs could be used for herding elk within the park to direct movement from the primary winter range in the summer to the traditional summer range. Hikers with dogs would not be specially trained and able to perform this activity in a controlled manner that would be effective in meeting management objectives. In addition, the Code of Federal Regulations (36 CFR Part 7 Section 7.7d) prohibits the use of pets on trails or in the backcountry of the park. The use of trained herding dogs by NPS staff or their authorized agents is allowable as a management tool in accordance with 36 CFR Part 1 Section 1.2.

Public Comment:	*Commenter:*	*Affiliation:*
664E		Individual

Issue: Alternative Hunting Practices Outside of the Park

Comment: "While it is unclear what impact public hunting has on park elk and though [Animal Welfare Institute] takes no position on the hunt itself, the [National Park Service] should engage in negotiations with the Colorado Division of Wildlife to allow only elk cows to be killed in areas open to hunting on lands adjacent to the park. The Draft EIS suggests that the bulk of elk hunted at present are males, Draft EIS at [page] 19, yet, as the [National Park Service] concedes in its own analysis of its proposed lethal control plan, if elk are to be hunted, removing female elk of reproductive age is the most effective means of generating a population level effect."

Response: In the game management unit (GMU) adjacent to the national park's elk winter range addressed in the plan/EIS, one of the primary management goals has been to reduce elk population numbers through harvest of female elk. In an effort to achieve this, the number of antlerless elk hunting licenses available in 2006 (2,350) is almost four times greater than the number of licenses for male elk (605). These licenses are projected to result in the harvest of more than twice as many female as male elk this year. However, harvest of female elk outside the national park alone will not be adequate to address damage to vegetation in the park and elk human-

conflicts, because many of these elk use lands closed to hunting.

It should also be noted that the National Park Service does cooperate with the Colorado Division of Wildlife and other agencies in the management of the elk population. The National Park Service, the U.S. Forest Service, and the Colorado Division of Wildlife are members of the Rocky Mountain Council for Cooperative Wildlife Management. It was initiated in 1962 with a Memorandum of Understanding concerning "The Rocky Mountain Cooperative elk studies" and in 1974 an additional Memorandum of Understanding gave the group its formal name and expanded it to cover all wildlife species.

Public Comment:	*Commenter:*	*Affiliation:*
804M	Animal Welfare Institute	Organization

Comment: "I am saddened that the Division of Wildlife has not stepped up to the plate as was done in 1963 with a special hunt. In October of 1962, Colorado Game and Fish Department Director Harry Woodward called on Secretary of Interior Stuart Udall to allow a pilot program of controlled hunting in the park, itself. When rebuffed, Woodward took a more dramatic step. In 1963, he announced a special pre-season hunt for elk in the region east and north of the National Park. The hunt extended from January 26 through February 17 and was opened to resident and non-resident hunters alike, with a bag limit of one elk of either sex. Many landowners opened their land for the hunt. Through the efforts of the Colorado Cattleman's Association and the Game and Fish Department, ranches were tied into a network of headquarters. Concentrations of elk were reported to all cooperating ranch owners. In this way, hunters kept informed of the location of elk."

Response: Over the years, the Colorado Division of Wildlife has tried many methods to liberalize elk harvest with hunting outside the National Park in an effort to manage elk numbers and elk grazing impacts on all lands. These actions have slowed the overall increase in the elk numbers. Harvest has increased in recent years, with an estimated 2006 harvest in excess of 700 elk. However, the amount of private and public lands that do not allow hunting continues to increase in this hunting unit. Elk use these un-hunted areas as a refuge, and as a result the harvest of elk only in areas that are currently accessible to hunting has not been adequate to address on-going concerns.

Public Comment:	*Commenter:*	*Affiliation:*
839F		Individual

Comment: "In the general view of alternatives, why is bow-hunting within the Estes Park community limits not given consideration? The strategy has proven effective in a variety of contexts, and with proper qualification of hunters and careful setting of norms for the hunt may be carried out with a high level of safety and negligible costs (target-shooting tests, restriction to elevated stands, and specification of bow pull-strengths, among other considerations)."

Response: Hunting outside the park is under the jurisdiction of the Colorado Division of Wildlife. There are archery elk hunting licenses and season in all areas within game unit (GMU) 20 for bulls, cows, and either sex. Archery hunting access is restricted in some areas in the Estes Valley by property owners and by town ordinance.

Public Comment:	*Commenter:*	*Affiliation:*

856B	Individual

Comment: One commenter suggested using property tax incentives for landowners that grant hunting access on their lands.

Response: Hunting outside the park is managed under the jurisdiction of the Colorado Division of Wildlife. According to the Colorado Division of Wildlife, this suggestion will be taken into consideration.

Public Comment:	*Commenter:*	*Affiliation:*
1160D		Individual

Comment: One suggestion was made that the state of Colorado extend the hunting season into February as they have seen large migrations into game management unit 19 in February.

Response: The Colorado Division of Wildlife already has extended some elk hunting into February and is considering more elk hunting in February during the elk population management planning process.

Public Comment:	*Commenter:*	*Affiliation:*
1160E		Individual

Comment: "Why not simply increase the number of elk permits each year? That is up to the state and the [National] Park Service said they have no control over what happens outside the Park although in a different context, it was stated that the Park was working closely with the local governments on this issue. Which is it?"

Response: The Colorado Division of Wildlife has doubled the number of elk hunting licenses, liberalized annual bag limits by allowing the harvest of additional female elk, and allowed special hunts to address damage caused by elk. These actions have possibly reduced the elk population somewhat, or more likely, only slowed the elk population increase. The National Park Service collaborates with the Colorado Division of Wildlife in the regional management of elk as members of the Rocky Mountain Council for Cooperative Wildlife Management which was initiated in 1962 and also involves the collaboration of the U. S. Forest Service.

Public Comment:	*Commenter:*	*Affiliation:*
1169B		Individual

Issue: Create Suitable Habitat Outside of the Park

Comment: "Provide water resources outside the park. This could be effective considering our dry Septembers. Perhaps get them moving into different areas away from the park earlier than they normally would. You would be surprised what gathers around a simple stock tank."

Response: The suggested actions would be outside the National Park Service's jurisdiction to undertake.

Public Comment:	*Commenter:*	*Affiliation:*
1160C		Individual

Comment: "Elk management should start outside the park. To begin I believe you should approach the [U. S.] Forest Service and local landowners for help. Natural foods that elk love could be planted there to draw elk outside the park. This is currently being done on private property on the western slope. Better foods mean they stay in an area. I have witnessed these phenomena and some property owners would cooperate if they only knew what to plant. Your biologists could advise them."

Response: This suggestion would not resolve the need for the plan, as over time supplemental feeding would result in increased recruitment of calves into the population, causing the population to increase. The National Park Service believes that although individual elk from the in-park subpopulation may be attracted to forage outside the park, other elk would eventually move into or be born and remain in the park (filling up existing habitat), keeping the in-park subpopulation at carrying capacity.

Public Comment:	*Commenter:*	*Affiliation:*
1160A		Individual

Issue: Enhancements for Willow Restoration

Comment: "Import native willow from areas outside the park. This could improve the genetic diversity of all your plants and increase areas overgrazed. How about aerial application of fertilizers and repellants? You apply fertilizer with slurry drops on forest fires so why not strengthen your stressed living aspen groves. Study substances that prolong the effect of repellants. A lot of animals do not like the smell of fertilizers."

Response: The specifics regarding the source of willow cuttings will be determined at a later date. There is no documented basis for the use of repellants on a large-scale basis. Repellents that have been used have been conducted on a small scale and need to be reapplied frequently, making this suggestion logistically unfeasible. Moreover, there is no indication that there is a nutrient deficiency preventing willow growth, so fertilizers would not be necessary. Fertilizers would also increase plant production and forage for elk, increasing the number of elk as a consequence which would not resolve the need for the plan.

Public Comment:	*Commenter:*	*Affiliation:*
1160F		Individual

ELK POPULATION

TOPIC: ELK POPULATION: SIZE, DISTRIBUTION, DENSITY AND BEHAVIOR

Issue: Elk Population Size

Comment: "It is established in the scientific literature that elk wintering in Rocky Mountain National Park and in Estes Park are two distinct subpopulations (Lubow et al 2002). The Draft EIS recognizes this fact (page iv) however; the population estimates used throughout the Draft EIS, the alternatives, the objectives, and the consequences treat both herds as one. This one fact invalidates the Draft EIS because a significant proportion of town elk do not use the Park at all and those that do use it for only approximately three months out of the year (Draft EIS page 119)."

Response: To meet the objectives of the plan, management actions would be taken to address the entire elk population that is the subject of the plan. The plan/EIS, as the commenter states, recognizes that there are distinct subpopulations within this population, with one subpopulation using the park in the winter and the other wintering outside the park. However, both use the park May through October and are having an effect on park resources as detailed in the "Purpose of and Need for Action" and "Background" sections of the plan/EIS. Based on available published literature and modeling, it can be stated that in general, between 75% and 90% of the entire population (both park and town subpopulations) migrate to higher elevations or the Kawuneeche Valley for the summer (Larkins 1997). This would be considered a significant portion of the population that is in the park during the summer and fall months. Under the modified Alternative 3, the final plan/EIS preferred alternative, lethal reduction actions would be taken predominantly between November and February which would target elk in the park subpopulations. However reductions could occur at any time of the year as needed to meet management objectives, which would include lethal reduction of elk from the town subpopulation when those animals are inside the park. Because the majority of the herd does spend a large part of the year outside the park, reducing the overall elk population in the Estes Valley would be more effective if complimentary actions, such as conducting special guided hunts in areas closed to traditional hunting, are taken by the Colorado Division of Wildlife. The final plan/EIS has been revised to include the target population size for both subpopulations within the natural range of variation. This has been provided in the "Objectives" section of the "Purpose and Need" chapter and "Alternatives" chapter of the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
820N		Individual

Comment: "Disease is another factor that likely influences elk populations in the park. The EIS mentions the incidence of chronic wasting disease in both free-ranging and captive elk but does not discuss its possible effects on the population density of animals in the park (EIS pg 20 and elsewhere). The EIS notes that [chronic wasting

disease] occurs in 0.3% - 2.1% of elk in region, based upon hunter harvest surveys just outside the park (EIS pg 125). While the current level of [chronic wasting disease] are not likely to result in large-scale population declines, an epidemic model revealed that [chronic wasting disease] will have an effect on a protracted time scale and that population declines would occur once infection rates exceed 5%. So while currently there may not be a discernable effect of [chronic wasting disease] on elk populations in [Rocky Mountain National Park], these effects may become apparent in coming decades."

Response: The population model that would be used annually to estimate the population size incorporates mortality from all sources, including disease. The level of management action that would be taken to control the population size would be adjusted annually based on the current population size estimates. Based on adaptive management, management actions to control the population size would not be taken if the population size were within the range specified within the alternative and vegetation objectives were being met. Under the modified Alternative 3, the final plan/EIS preferred alternative, the population would be reduced to the higher end of the natural range: 1,600 to 2,100 elk with 600 to 800 elk in the park subpopulation. Based on annual monitoring of the population size, if the population is within this range and vegetation management objectives are being met, no further population reductions would be taken.

Public Comment:	*Commenter:*	*Affiliation:*
808E	Humane Society of the United States	Organization

Comments: "Elk are a host to a wide variety of others diseases and parasites that may impact their population numbers. Of the 190 diseases and parasites that have been reported in elk and their European counterpart the red deer, six are considered as high risk agents that may impact elk and possible other animal populations. These pathogens and parasites include bacteria that cause brucellosis (*Brucella abortus*) and bovine tuberculosis (*Mycobacterium bovis*); the tick *Dermacentor andersoni* that transmits Colorado tick fever, Rocky Mounain spotted fever, and may cause tick paralysis; *Ioxes pacificus* a tick that transmits Lyme's disease; and mites of the genus *Pwsoroptes*, the angent of psoroptic mange. The EIS makes no mention of these pathogens, their occurrence in [Rocky Mountain National Park], nor their possible impact on the elk or other species, including humans."

Response: Similar to the previous comment (808 E), if pathogens were having an effect on the population numbers, then this would be detected in the population estimates that would be calculated annually. As stated in the earlier response, the plan is based on an adaptive management approach, and if the elk population size is determined based on monitoring to be within the range specified in the alternative (1,600 to 2,100 with 600 to 800 in the park subpopulation elk under the preferred alternative in the final plan/EIS) and vegetation management objectives were being met, then no further elk reduction actions would be taken.

Public Comment:	*Commenter:*	*Affiliation:*
808F	Humane Society of the United States	Organization

Issue: Elk Behavior

Comment: "Disruption of elk breeding behavior. The [National] Park Service's preferred alternative [draft plan/EIS] maximizes the impact of reductions on elk social behavior by scheduling reductions to encompass the elk breeding season that peaks in late September. This timing ensures maximum disruption of normal elk

breeding behavior. The preferred alternative would have the most disruptive effect and it would continue throughout succeeding breeding seasons for the foreseeable future. All of the natural behaviors of rutting elk that create a tremendous draw for visitors would be reduced as they are in hunted populations. Harem size and normal breeding behaviors such as bugling, harem herding, and sparing between bulls, would all decline as has been documented for hunted herds.

Disruption of elk daily activity, habitat selection and social behavior. The [National] Park Service preferred alternative is comparable to the most severe hunting intensities outside of the Park. This level of hunting pressure has been determined to significantly alter natural patterns of daily activity, habitat selection, and social behavior in hunted herds. By focusing pressure on cows the [National] Park Service will maximize the disruptive effect of removals on behavior of elk because cows alter their behavior more readily than bulls in response to hunting pressure."

Response: Under the modified Alternative 3, the final plan/EIS preferred alternative, lethal reduction actions would be taken predominantly between November and February which would target elk in the subpopulations that winter inside the park boundary. However, reductions could occur at any time of the year as needed to meet management objectives, which would include lethal reduction of elk in the fall when some elk that winter in Estes Park are still inside the park. Because the majority of the herd does spend a large part of the year outside the park, reducing the overall elk population in the Estes Valley would be more effective if complimentary actions, such as conducting special guided hunts in areas closed to traditional hunting, are taken outside the park by the Colorado Division of Wildlife. Progress made toward reducing the town subpopulation during winter when elk are outside the park would reduce the need for lethal reduction actions inside the park boundary during the breeding season.

Public Comment:	*Commenter:*	*Affiliation:*
820J, 820K		Individual

Comment: "Alternative two would teach elk to fear humans as their sole predator, while a wolf-reintroduction program would teach them to fear wolves as their primary predator. Elk will be most wary of wolves if Alternative Five is used, whereas if Alternative Two is used, elk will learn to fear humans as their natural predators, and will make themselves scarce in the presence of humans. Therefore Alternative Two would be harmful to tourism because tourists enjoy elk to come near them. This will not happen if humans play the solitary role of "natural" predator, because the elk will flee from tourists."

Response: The objectives of the plan include decreasing the level of habituation to humans that is currently exhibited by elk. The plan/EIS "Visitor Use and Experience" section of the "Environmental Consequences" chapter has recognized that lower elk numbers and increased wariness by elk would somewhat reduce viewing opportunities in the park and would have a negligible-to-minor, adverse effect on some visitors. Visitors would continue to have many opportunities to view elk, including during the fall rutting season. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3, would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 in the park subpopulation. As a result, visitors would be negligibly affected because changes in population size would largely be undetectable to the visitors, and elk would continue to be seen congregating in open meadows. Visitors would also benefit from viewing elk exhibiting natural behaviors and in a setting reflective of natural conditions. The park would opportunistically monitor visitation patterns and

visitor responses to changes in elk numbers and distribution to help identify educational needs of the public and to promote improved understanding of the elk and vegetation management plan.

Public Comment:	*Commenter:*	*Affiliation:*
834E	Wolf Advocate	Organization
820G		Individual

Comment: "Reduction in scientific, research value of elk by making them less abundant and difficult to observe and by making them fearful of people resulting in changes in use of habitats and in social behavior. The only elk populations in the United States that are managed at the carrying capacity of their habitats are those in some National Parks. All elk populations outside of National Parks are kept below carrying capacity of their habitats by hunting and are afraid of humans. Outside of national parks the most important determinants of population size and structure, movements, distribution and habitat selection of elk are hunting mortality and avoidance of humans. The scientific value of national park elk lies in their not fearing humans because they provide our only model of elk population structure, population dynamics, social behavior, and habitat selection in the absence of hunting."

Response: The commenter may be correct in that elk in areas that are hunted may be more wary of humans. Elk however use Estes Park as a refuge from hunting and exhibit behaviors that indicate a level of habituation to humans. Under natural conditions, as defined in the plan/EIS, in the presence of wolves, elk would be less sedentary and more wary. One of the management objectives of the plan is therefore to decrease the level of habituation to humans that elk currently exhibit and to restore elk behaviors reflective of natural conditions. The scientific value of the unnatural behavior of elk and the interaction with humans is debatable. Observing and studying the natural behaviors of elk and the response of vegetation would be valuable to research since it would increase manager's and researcher's understanding of the park's natural resources and ecosystem processes.

Public Comment:	*Commenter:*	*Affiliation:*
820H		Individual

Issue: Elk Densities and Movements

Comment: "There are a number of erroneous or unsubstantiated statements in the EIS. The Draft EIS states (page iv) that elk in the lower elevations during the summer is not "natural". There is no basis in fact for that statement. Elk were abundant in Estes Park when white settlers first arrived. There is also no basis in fact for the statement that concentrations of elk in wet meadow areas (which supply abundant forage) are unnatural. There is no basis in fact for claims that concentrations of elk on winter ranges are unnatural. Over ten years since reintroduction of wolves, elk in Yellowstone continue to aggregate on the northern winter range in groups numbering in the hundreds."

Response: When settlers came to the Estes Valley, they noted that elk migration from lower elevations (the winter range) to higher elevations (the summer range) was occurring at that time. An excerpt from Estes (1939) – referring to animal migrations during the 1860s – stated, "winter drove all the game down to the foothills, except the elk, they would remain in the park [referring to the Estes Valley] until summer, then they went up over the range or mountains" (Monello et al. 2005).

In addition, August and McNaughton (1998) provide evidence that non-migratory elk are having an adverse

impact on vegetation. These elk cause concern because they can severely inhibit the regrowth capabilities of important winter forage species. In particular, the herbaceous plants in willow communities may be particularly vulnerable because the majority of grazing is occurring during the growing season (Augustine and McNaughton 1998). Furthermore, evidence was provided in the plan/EIS to support the statements regarding the high concentrations of elk on the primary winter range. On the core winter range densities have been documented to be greater than 260 elk/mile^2. This level of elk densities are the highest concentrations ever documented for a free-ranging population in the Rocky Mountains (Monello et al. 2005, Singer et al. 2002). Known elk densities reported for other areas of comparable habitat in the Rocky Mountains range from 3 to 52 elk/mile^2 (Monello et al. 2005). It is the purpose and the objective of this plan to restore vegetation to natural conditions within these areas and, based on the evidence provided in the plan/EIS regarding the effects of elk grazing on vegetation, the National Park Service believes that actions to reduce the densities of elk on the primary elk range are justified.

The commenter is correct in stating that elk in Yellowstone continue to congregate within the park; however, evidence from Yellowstone indicates that elk densities have decreased as a result of the presence of wolves and elk have decreased their use of areas that have predators (Ripple et al. 2001). Research in Yellowstone National Park also indicates that willow and aspen are benefiting from this reduced grazing pressure by elk (Ripple et al. 2001). As such, under the Rocky Mountain National Park Elk and Vegetation Plan, the preferred alternative, the modified Alternative 3 in the final plan/EIS, would use redistribution methods to reduce grazing pressure on vegetation communities on the elk range to meet vegetation management objectives.

Public Comment:	*Commenter:*	*Affiliation:*
820M		Individual

TOPIC: ELK POPULATION – INDIRECT EFFECTS

Issue: Impacts on Elk Population – Poaching

Comment: "My concerns are that, by allowing qualified marksmen, poachers will take that as an open invitation to come to the park in the guise of being eligible marksmen."

Response: This may be a perception for some; however, it remains illegal to do so, and those that act in this manner would be arrested and prosecuted. The effect on the elk population from poaching activities has been addressed as a cumulative effect in the plan/EIS, "Environmental Consequences" chapter, and "Elk Population" section. The use of NPS staff and their authorized agents who would be certified in firearms training, specially trained in wildlife culling, and be required to pass a proficiency test in order to qualify to participate in culling activities, would not be confused as hunters as they would wear clothing to identify themselves as agents of the National Park Service.

Public Comment:	*Commenter:*	*Affiliation:*
650B		Individual

VEGETATION

TOPIC: IMPACTS ON VEGETATION

Issue: Impacts on Willow and Aspen

Comment: "Horseshoe Park has experienced one major event which does not appear to have been addressed in the study. With the Lawn Lake Dam breech in 1982, the remaining beaver dams and Cascade Dam were destroyed which has significantly reduced the quantity of impounded water in Horseshoe Park thus lowering the water table. This is very evident in the reduced volume of water currently in Sheep Lakes. The difference in pool elevation between Sheep Lakes and the former Cascade Lake is only 36 feet and they are approximately one mile apart. If you plot the hydraulic gradient and backwater curves between Cascade Lake and Sheep Lakes using the normal pool elevation of each lake and take into account beaver dams along Fall River prior to 1982, you will probably find a significant difference in the water table elevation in Horseshoe Park in 1982 versus today. The conclusion here is that the elk most likely are not totally responsible for the changes that have occurred in Horseshoe Park."

Response: The plan/EIS does not claim that elk are the only factor responsible for hydrologic changes in Horseshoe Park. The plan/EIS "Affected Environment" chapter, "Vegetation" and "Water Resources" sections describe the impact that the Lawn Lake Flood had on the hydrology of streams in Horseshoe Park and the resulting decline in beaver and willow.

The plan/EIS acknowledged that willow declines over the last 50 to 60 years can be attributed to a variety of factors, including changes in water availability. The alterations in hydrology and the impacts that has had on willow on the elk range has been described in the plan/EIS, "Affected Environment" chapter, "Vegetation" section. The National Park Service recognizes that the current condition and trend of willow communities is due to both the effects of elk and the current hydrologic conditions on the elk range and that these hydrologic conditions also play a critical role in development of vegetation communities. The plan/EIS states that given the current conditions regarding hydrology in these areas, a lack of beaver is accelerating the decline in willows in these areas by inhibiting the development of appropriate sites for willow seedling establishment and by limiting recharge of shallow aquifers. Modeling efforts indicate that willow communities can be improved if both elk numbers and water use are restored. And recent research has shown that beaver, even in years of low precipitation, can have large effects on the hydrology and expand riparian habitat even in areas that have experienced hydrologic changes in the past (Westbrook et al. 2006). Through the process outlined above and in the plan/EIS, the National Park Service proposes to remedy this current condition. In addition, restoration efforts in the area of the Lawn Lake flood are in progress. See also response to comment 804F and 804U in "Hydrology" section and 804V in the "Other Wildlife and Wildlife Habitat" section of this volume.

Public Comment:	*Commenter:*	*Affiliation:*
777A		Individual

Comment: "…the Draft EIS, though conceding that montane riparian willow has been declining over the past 50 to 60 years due to a variety of factors, … fails to disclose what factors may have caused or contributed to this decline and whether those factors have been addressed."

Response: See response to comment 777A above. The main causes others than hydrologic conditions, lack of beaver, and increased elk herbivory for decline of riparian willow on the primary winter range include removal for development and haying that occurred in the past in Moraine Park and the Lawn Lake Flood that altered the willow community in Horseshoe Park. None of these other factors are preventing restoration of the willow community on the elk range. The plan/EIS "Affected Environment" chapter, "Vegetation" section details the factors that have affected riparian willow on the elk range in the past.

A recent study conducted in Rocky Mountain National Park along a reach of the Colorado River on the elk primary summer range found that beaver can have profound impacts on hydrologic processes in the area. The area of the primary summer range has been previously impacted by the Grand Ditch, which has reduced summer flows in the Colorado River by approximately 50 percent since the late 1800s. This change in flow likely altered how beaver dams affected the hydrologic process on the primary summer range, as did the reduction in beaver that occurred as a result of trapping. A recent study analyzed the effects of only two beaver dams on hydrologic processes on a reach of the Colorado River on the primary summer range. Given the altered flow condition and current precipitation patterns, researchers found that beaver dams and ponds greatly enhanced the depth, extent, and duration of inundation associated with floods and that the water table was elevated during periods of both high and low flows (Westbrook et al. 2006). Each beaver dam studied attenuated the water table decline that occurs in drier summer months over nearly one quarter of the 58 hectare study area. This study suggests that through dam building, beaver can create and maintain hydrologic regimes at very large spatial scales, which can expand riparian habitat.

Public Comment:	*Commenter:*	*Affiliation:*
804F, 804U	Animal Welfare Institute	Organization

Comment: "Willow is described as the dominant woody shrub on almost all wet meadow or riparian areas in [Rocky Mountain National Park]. Elk are a dominant ungulate in RNMP. Elk herbivory impacts on willow, therefore, are to be expected, are entirely natural, and are limited to the core winter range within [Rocky Mountain National Park]. The [National Park Service] claims that elk herbivory on willow is severe and excessive and is affecting wildlife habitat for a large number of bird, butterfly, and plant species, yet it offers no direct evidence of such impacts beyond comparing willow production between grazed sites and fenced experimental plots."

Response: As described in the "Affected Environment" and "Environmental Consequences" chapters, "Vegetation" sections of the plan/EIS, many parameters, including willow production, have been measured on the elk range that indicate elk are having an impact on willow. It is recognized by the National Park Service that some level of elk herbivory is natural, but under more natural conditions with an intact predator base the amount of herbivory would be expected to be lower as elk concentrations would be lower. At current herbivory levels, authors have shown that elk herbivory is resulting in a conversion of tall to short willow on the elk range (Peinetti et al. 2001, Zeigenfuss et al. 2002, Cooper et al. 2003) and that willow cover has declined by 20% on the primary winter range (Singer et al. 2002, Zeigenfuss et al. 2002, Peinetti et al. 2001). Although data have not been collected on willow habitat types on the primary summer range, there have been observations by research scientists studying the park and by park staff that similar effects are occurring on the primary summer range in the Kawuneeche Valley. As part of the management plan, collection of baseline data and monitoring of vegetation would be conducted prior to any management actions. Riparian habitats in particular support the

highest level of songbird diversity of any western habitat type, while being one of the rarest (Leukering and Carter 1999). If this habitat is lost, species that depend upon it will also be impacted.

Public Comment:	*Commenter:*	*Affiliation:*
804T	Animal Welfare Institute	Organization

Comment: "Elk probably do adversely impact willow and aspen within their winter range, however, no study has documented that elk are the only or even the primary cause of declines in either species. Other important factors in declines of willow and aspen include human-related changes in water tables, climate change, fire exclusion, and declines in beaver (initially related to introduction of an exotic disease). On summer range the primary negative impact on willow is global warming that has resulted in a decline in snow cover that is critical to maintaining alpine willows. On summer range, willow stands grazed by elk have declined, however; declines have occurred in willow stands that are not grazed or are only lightly grazed by elk. Elk do not impact aspen on summer range - aspen is not preferred forage on summer range (Stevens 1980). It is doubtful whether actions proposed in the Draft EIS will reverse trends in aspen and willow since they are region wide. Aspen has been declining on Forest Service land adjacent to Rocky Mountain National Park for decades despite elk populations well below range carrying capacity."

Response: Regarding other factors affecting willow on the elk range, see previous response to comment 777A above. Studies that have controlled elk grazing with all other factors left constant have shown increased growth in these species. In addition, in areas without heavy elk browsing, these species are also able to grow and do not experience the same effects as seen in high concentration areas of the elk range. Based on the evidence provided in the plan/EIS, high levels of elk herbivory is the main reason that willow cannot recover on the primary winter range. It has been recognized in the plan/EIS "Affected Environment" chapter, "Vegetation" section that on the summer range, the declines in willow in the subalpine and alpine cannot be definitively correlated with elk herbivory, but they do support the general observations by park staff and researchers (Zeigenfuss 2005). It has been recognized that climatic conditions and snow cover may also be contributing to the changes in willow in alpine areas. Only limited data have been collected on willow habitat types on the primary summer range in the Kawuneeche Valley, however there have been observations by research scientists studying the park and by park staff that similar effects are occurring here as on the primary winter range. As part of the management plan, monitoring and establishing baseline data would be conducted prior to any management actions.

The aspen located on U.S. Forest Service lands that are referred to in the comment are likely aspen in mixed conifer forests. Aspen which are successional to conifer are little affected by elk as the commenter points out; however these are not the aspen proposed for protection and management. The aspen that are the focus of this plan/EIS are those that are successional to grassland such as those found in the Kawuneeche Valley on the primary summer range. Ecosystem modeling conducted for the park has predicted that these aspen on the elk range that are successional to grassland would continue to decline without fencing protection from herbivory (Coughenour 2002). A few studies have indicated a lack of regeneration of aspen in the Kawuneeche Valley, which has been attributed to locally heavy elk use in both the winter and summer (Suzuki et al. 1999, Kaye et al. 2003). Redistribution of elk may help in the regeneration of aspen without the use of fences; however, fences would be used to protect aspen until the effectiveness of such actions can be further evaluated through monitoring.

Public Comment:	*Commenter:*	*Affiliation:*
820B		Individual

Comment: "Studies on Aspen damage in [Rocky Mountain National Park], Yellowstone, and other areas have found strong inverse link between a viable wolf population and elk overgrazing on aspen. The 2004 recommendations recognized this fundamental biological fact as one of the prime determinants when considering its options. Sharpshooting will not deter elk from loafing in their winter aspen groves and chewing the trees literally to death; half the purpose of this management plan is being ignored by this new proposal."

Response: All action alternatives incorporate redistribution actions to reduce densities of elk to promote recovery of aspen and willow on the elk range. In addition, as stated in the response to comment 804S in "Purpose of and Need for Action" section of this volume, due to the degraded condition of the aspen on the elk range and the uncertainty of the success that can be achieved with the use of redistribution actions, all action alternatives incorporate the option to fence aspen as needed to meet the management objectives of the plan.

Public Comment:	*Commenter:*	*Affiliation:*
436C		Individual

Issue: Impacts on Alpine Vegetation

Comment: "The concern raised for alpine tundra may be considered as much a tourist value as an inherently ecological one: excess concentrations of elk at high altitudes (as observed in June 2006) may be of some or great weight here."

Response: Page ix of the Executive Summary displays the significant resources that the park is mandated to protect, which includes the alpine tundra area. The elk and vegetation management plan therefore has evaluated the impact of management actions on these resources, as was presented in the "Environmental Consequences" chapter, "Vegetation" section of the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
856D		Individual

WATER RESOURCES

TOPIC: IMPACTS ON HYDROLOGY

Issue: Management Actions Effects on Hydrology

Comment: "The proposal to slaughter elk in [Rocky Mountain National Park] will do nothing to restore beaver populations within the primary winter range. Elk did not cause the decline of the beaver. … The [National Park Service] failed to disclose in the Draft EIS the full range of activities inside and external to the park and the [National Park Service] that may be adversely affecting the amount of water available to facilitate beaver restoration."

Response: The commenter is correct in that elk did not cause the decline of beaver. The decline in beaver populations within the park have been detailed in the plan/EIS, "Affected Environment" chapter, "Other Wildlife and Wildlife Habitat" section. As discussed in that section, beaver declines in the park were likely initiated by trapping in the 1940s. Intense elk browsing of riparian willow, however, has apparently prevented the recovery of beaver (Baker et al. 2004), as is evident in the park where beaver colonies mostly occur in areas with low elk use and beaver are largely absent from willow areas with heavy elk use. Elk herbivory results in shorter willow, which is largely unsuitable habitat for beaver that prefer relatively tall, unbrowsed willow (Baker et al. 2004). Under the modified preferred alternative (Alternative 3), reducing the size of the park subpopulation to 600 to 800 elk, reducing densities through the use of redistribution techniques, and fencing 440 acres of riparian willow on the primary winter and summer ranges would reduce the consumption rate of willow by elk. This reduction in herbivory would allow increases in willow height and production on the elk range that would provide suitable habitat for beaver recolonization.

The National Park Service recognizes the importance of beaver within the ecosystem and in meeting the management objectives of the plan for restoration of montane riparian willow on the elk range. As such, under all action alternatives, there is the potential to reintroduce beaver to the elk range, if natural recolonization is not occurring, when willow vegetation has been restored to areas of approximately 10 acres or more. Once beaver have recolonized, there would be a positive effect on hydrology by raising groundwater elevations, increasing stream sinuosity, and increasing the amount of surface water on the elk range (Naiman et al. 1988). This then would create a feedback mechanism that would increase beaver and willow populations.

The plan/EIS acknowledged that willow declines over the last 50 to 60 years can be attributed to a variety of factors, including changes in water availability. The alterations in hydrology and the impacts that has had on willow on the elk range has been described in the plan/EIS, "Affected Environment" chapter, "Vegetation" section. The National Park Service recognizes that the current condition and trend of willow communities are due to both the effects of elk and the current hydrologic conditions on the elk range and that these hydrologic conditions also play a critical role in development of vegetation communities. Modeling efforts indicate that willow communities can be improved if both elk numbers and water availability are restored. Through the process outlined above and in the plan/EIS, the National Park Service proposes to remedy this current condition.

Public Comment:	*Commenter:*	*Affiliation:*
804V	Animal Welfare Institute	Organization

OTHER WILDLIFE AND WILDLIFE HABITATS

TOPIC: IMPACTS ON OTHER WILDLIFE SPECIES

Issue: Birds and Butterflies

Comment: "In regard to elk impacts to bird and butterfly species, it is one thing to theorize about such impacts based on the assumption that elk herbivory destroys bird and butterfly habitat and that, therefore bird and butterfly populations must be in decline, versus proving that such impacts are real. As revealed in the Draft EIS, there is no evidence that bird and butterfly population have been adversely impacted by elk herbivory or elk concentrations in the park."

Response: The commenter is correct that data have not been collected to indicate that bird and butterfly populations have been adversely impacted. However, the conclusion reached in the plan/EIS is logical in that these species depend on this habitat for forage and shelter and if the habitat is not available, these other wildlife species cannot be supported resulting in significant adverse impacts to these other wildlife species.

Public Comment:	*Commenter:*	*Affiliation:*
840O	Animal Welfare Institute	Organization

PUBLIC HEALTH AND SAFETY

TOPIC: IMPACTS ON PUBLIC HEALTH AND SAFETY

Issue: Human-Elk Conflicts

Comment: "While wildlife and humans conflict, there is no evidence provided in the Draft EIS that the elk population has or is causing an increase in and/or unacceptable conflicts with humans who live or recreate in the area. Indeed, the Draft EIS reports that elk damage to landscaping (which costs the city of Estes Park some $12,000 to $14,000 a year to repair) may actually be generating over $300,000 for local landscaping companies, that one automobile per month strikes an elk despite a significant increase in traffic volume due to increased development, that 70 percent of residents interviewed reported that elk interactions with visitors have resulted in no injuries to date."

Response: This issue was raised by both cooperating agencies and the public during the scoping phase of the process and therefore was evaluated according to the requirements of the National Environmental Policy Act. Based on the best available information regarding human elk conflicts, the commenter is correct in stating that accident levels are low, although there are documented incidents that occur every year as a result of habituated elk (see "Affected Environment" chapter, "Public Health and Safety" section). This concern is not part of the purpose and need for elk management or an objective of the plan/EIS, but the risk to public health and safety due to habituated elk is a concern of the public and agencies outside the park and was therefore analyzed in the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
804P	Animal Welfare Institute	Organization

Issue: Risks to Visitors from Management Actions

Comment: "Concerns were raised by many commenters regarding the risk to visitors from lethal reduction activities that could take place at night and the potential for actions taking place in areas of high visitor use. Some suggested closing the park entirely or portions of the park to reduce risk to the public."

Response: Limited areas of the park on the elk range may be temporarily closed during operations to conduct management actions. Closure of the entire park will not be necessary. Since release of the draft plan/EIS, the National Park Service has reconsidered its preferred alternative based on concerns expressed by the public and further evaluation of the ability of the National Park Service to implement an alternative given current staff resources and funding constraints. The final plan/EIS preferred alternative is the modified Alternative 3 which would achieve an elk population size of 1,600 to 2,100 elk gradually over the 20-year planning period with 600 to 800 elk in the park subpopulation. This alternative would involve lethal reduction of up to 200 elk per year. Management activities could be conducted at any time of the day using multiple methods that would minimize impacts on visitors and would be mitigated to eliminate risks to visitor safety as described in the "Elements

Common to All Action Alternatives" section in the "Alternatives" chapter. These measures, in addition to appropriately sized closures of limited park areas, could include use of subsonic ammunition, which has a shorter range than conventional rounds, and shooting from elevated stands, which can establish shooting lanes and reduce the distance bullets could travel via backstops. Every action would involve the presence of agency spotters who would ensure that the area is clear of people and to prevent individuals from entering the area during lethal reduction activities.

Public Comment:	*Commenter:*	*Affiliation:*
355B, 820I		Individual

SOCIOECONOMICS

TOPIC: IMPACTS ON SOCIOECONOMICS

Issue: Evaluation of Socioeconomic Impacts

Comment: A few comments were received promoting the re-introduction of wolves as they would provide incentives for tourists to visit the region resulting in large economic benefits. Wolves bring millions of dollars in tourist money per year to areas they live in because of their popularity among the general public.

Response: The socioeconomic analysis presented in the plan/EIS recognized both the social and economic benefits to tourism in the vicinity of the park (see "Environmental Consequences" chapter, "Socioeconomics" section). As presented in the plan/EIS, it was projected that there could potentially be a 10% gain in visitors to the region, which would result in $3 million in additional sales and $1 million in personal income. The National Park Service recognized the socioeconomic benefits that would result with the release of wolves inside the park; however, there were additional elements evaluated and considered in determining the preferred alternative.

Public Comment:	*Commenter:*	*Affiliation:*
834F	Wolf Advocate	Organization
839B		Individual

Comment: "The DEIS covers a wide range of socioeconomic impacts of the proposed actions. One issue which we didn't see discussed was how the reduced elk populations and recovery of the aspen and willow in the core winter range areas (which also happen to be some of the most heavily used areas in the park) would affect the fall tourist season. Many residents of the Front Range visit the Park in September to view the aspen in fall color, and it would seam that increased aspen regeneration would lead to increased color and thus perhaps increased visitation levels. In turn this would likely bring an increase in income to the tourist-related businesses in the Estes Park area. If this economic impact was covered in the DEIS we couldn't find it, and it would be worth investigating."

Response: There is a segment of visitors that come to the park and region in the fall primarily to enjoy the colors of autumn, as was discussed in the "Affected Environment" chapter, "Visitor Use and Experience" section. This is not thought to be a large segment of visitors, and as such the socioeconomic benefit of restoration of vegetation would not likely have a substantial impact on visitation to the area and would result in negligible to minor, long-term benefits. This information was presented in the "Environmental Consequences" chapter, "Socioeconomics" section of the plan/EIS.

Public Comment:	*Commenter:*	*Affiliation:*
1159C	Audubon Society of the	Organization

Greater Denver

Issue: Evaluation of Impacts Outside of the Park

Comment: "As a resident outside of Rocky Mountain national Park however, I am concerned about the impact on my property with the overabundance of elk already evident. It would seem that by eliminating the elk in the fashions described would certainly force remaining elk out of the protected area of the park and in to the surrounding 'safe' areas outside the boundaries of the park and in 'non-hunting' residential areas. Does the plan address this concern and if so, in what way?"

Response: The plan/EIS does address the concern of movement of elk outside the park as a result of management actions. In the description of Alternative 2 in the "Alternatives" chapter of the plan/EIS, it is stated that the long-term effects of management actions such as lethal reduction using suppressed or unsuppressed weapons and aversive conditioning on movement of elk is uncertain. For analysis purposes, the action alternatives (Alternatives 2, 3, 4, and 5) assumed that there would continue to be elk movement between the town and park. If management actions in the park cause additional elk to seek refuge in town or if migration of the town subpopulation ceases or declines, eliminating the ability of the National Park Service to reduce the population, the impacts on properties outside the park would need to be mitigated by the Town of Estes Park and by the Colorado Division of Wildlife, which has jurisdiction over wildlife outside the park boundaries. With the gradual reduction in the elk population under the modified Alternative 3, the preferred alternative in the final plan/EIS, the number of elk removed annually would be up to 200, reducing the potential for large numbers of elk to move outside of the park due to management actions.

Public Comment:	*Commenter:*	*Affiliation:*
688B, 687C		Individual

Comment: "The executive summary cites problems of elk concentrations in developed areas outside of Rocky Mountain National Park (page vi). It is not appropriate in an EIS on elk and vegetation management in Rocky Mountain National Park to cite or attempt to address problems outside of the Park. These problems should be addressed by those with statutory responsibility for management of wildlife in those areas."

Response: It is not an objective of the plan to manage elk outside park boundaries. If issues occur or continue to occur outside the park it will be up to the Colorado Division of Wildlife and local government agencies to take further management actions. Although the scope of the plan is limited to within park boundaries, the plan must acknowledge impacts that may result both inside and outside the park.

Public Comment:	*Commenter:*	*Affiliation:*
820L		Individual

Comment: "The National Park Service' sensitivity to business that visitors generate in Estes Park is thoughtful and neighborly. Still, the posturing in the EIS for tourism and more visitors ought not override the agency's conservation mandate and concerns for wildlife and the purpose of the publicly owned national park."

Response: The impacts on visitor experience and the economics as a result of actions to manage elk and

vegetation were issues identified during the scoping process by the public and by other agencies. The "Issues and Impact Topics" section of the "Purpose of and Need for Action" chapter addresses potential issues and impact topics that were brought forth during public scoping and through the interdisciplinary planning process. Under NPS Director's Order 12, issues are defined as problems that any of the alternatives may cause, or they may be questions, concerns, problems, or other relationships, including beneficial ones. Issues alert the reader to what the environmental problems might be if an action is taken. The National Park Service is not posturing but merely disclosing impacts to the regional and local economy that may result from taking a federal action as required by the National Environmental Policy Act.

Public Comment:	*Commenter:*	*Affiliation:*
355C		Individual